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OVERSIGHT OF THE FAA

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION UNITED STATES SENATE

ONE HUNDREDTH CONGRESS

SECOND SESSION

ON

OVERSIGHT OF THE FEDERAL AVIATION ADMINISTRATION

MARCH 16, 1988

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OVERSIGHT OF THE FAA

WEDNESDAY, MARCH 16, 1988

U.S. SENATE,
SUBCOMMITTEE ON AVIATION,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, D.C.

The subcommittee met at 2:04 p.m. in room SR-253, Russell Senate Office Building, Hon. Wendell H. Ford [chairman of the subcommittee] presiding.

Staff members assigned to this hearing: Steve Palmer, senior professional staff member and Patty Hahn, minority staff counsel.

OPENING STATEMENT BY SENATOR FORD

Senator FORD. The hearing of the Subcommittee on Aviation will come to order.

I have a brief statement, but let me say first, that we are very pleased to have the chairman of the full committee to join us today.

Without a doubt, this subcommittee has no greater mission than that of ensuring aviation safety. In the past 15 months we have worked hard to identify problem areas and provide the necessary direction to improve the safety of our commercial and general aviation industries, as well as airports, throughout the country.

This hearing is a continuation of that effort, as it is designed to determine whether the Federal Aviation Administration is doing all that it can to increase the margin of safety for our traveling public. I believe that this type of periodic oversight best provides the subcommittee members with an opportunity to question the head of the responsible agency as to how it is proceeding in that regard.

We need to know if the FAA has the resources to do the job, to question the direction it is going, as well as to raise any of the wide-ranging issues that are brought to us by our constituents.

This hearing presents the subcommittee with its first chance to meet with Administrator McArtor since the Senate confirmed him last July. I hope that we can cover a wide range of issues today. For example, I am interested in obtaining more details on the FAA's budget request for fiscal 1989 and its effect on continued modernization of the air traffic control system, airport development, increased staffing, and most notable air traffic controllers.

I am also interested in how the FAA is handling one of the most troubling labor-management situations to affect the airline industry in recent years. I am speaking of the situation at Eastern Airlines and the allegations being made as to the operational safety of that carrier.

Finally and perhaps most importantly, I am concerned about who is in charge at the FAA. Recent reports of contradiction and disagreement over policy between DOT and the FAA not only fuel my belief that the FAA must be made an independent agency, but in the context of this hearing make me question the agency's ability to fulfil its mission.

With the kind of maneuvering that has been occurring of late, it is hard to believe that the energies of the FAA are not being siphoned away from the paramount task of improving the safe operation of our air transportation system. I hope to explore this question, along with many others, with Administrator McArtor today, as well as Transportation Secretary Burnley next week, and both of you better get your act in order and together, when we hold our fourth hearing on S. 1600, our bill to establish an independent FAA.

Senator Hollings, do you have a statement you would like to make?

The CHAIRMAN. Thank you, Mr. Chairman.

I gladly join in your opening statement. I appreciate it.

Senator FORD. Senator Kassebaum.

Senator KASSEBAUM. Thank you, Mr. Chairman.

I just would add that I am a co-sponsor of S. 1600 and I very much support your comments.

Senator FORD. Boy, that is the best support I have had lately. I must be on the right track.

The CHAIRMAN. Well, I am still in doubt about your bill. I do not know whether we should make the FAA independent. But I join in the opening statement. I am studying closely the question of whether we make it an independent agency.

Maybe Mr. McArtor will tell us.

Senator FORD. Unfortunately, in his position Mr. McArtor has to take orders from above. If he was independent, he could come over here and tell you what he thinks.

There is a difference, you know. It is not like going through OMB.

I have an opening statement that Senator Kasten would like to have included in the record.

[The statement follows:]

OPENING STATEMENT BY SENATOR KASTEN

Thank you, Mr. Chairman. Welcome Administrator McArtor. I am sure that today a variety of subjects of importance to all of us will be discussed. Your "Impact 88" program is to complimented as bringing into sharper focus the problems, and their inter-relationship, which must be addressed in order to assure the safety of our air transportation system.

Several of the recent accidents have only reiterated the importance of your initiatives including the review of aircrew performance, reviewing airspace capacity, expediting introduction of state of the art technology, and improving security. While it has been pointed out that many different factors have been the causes of the accidents we have seen over the last year, it is still frightening to see that 7 commuter crashes accounted for 56 deaths in 1987 after only 2 such crashes in 1986. Just as disturbing is the fact that airline accidents in 1987 occurred at the highest rate since 1974.

In our search for those programs which will assure the safety of the flying public and the efficiency of the system, we have to be careful to consider the positions of all of the system's users. In this regard, Mode C implimentation has been requested by the Congress. The FAA has issued a Notice of Proposed Rule Making with only a 45-day comment period. Given the severe restrictions that this proposal would have on the general aviation community, I have received many contacts from constituents and am concerned that the time period is too short to allow the submission of all the necessary comments which should be considered.Many supporters of mode C are concerned that the FAA has gone to far.

I know that extentions are often thought to be merely delaying tactics. That is most definitely not my interest. However, I believe that even with the time constraints imposed for the rulemaking, the comment period should be extended for perhaps 60 days. I believe there is similar concern among other members, and members of this committee. I would urge your favorable consideration of such a request.

I look forward to Administrator McArtor's presentation. Thank you, Mr. Chairman. I would ask to be allowed to submit questions for the record.

Senator FORD. Mr. McArtor, I understand you have a 20 page or so statement, and you and I have a gentlemen's agreement that you will reduce that to about three, so we can turn your hair a little greyer between now and 4:00 o'clock maybe. So we are delighted to have you, and keep your good humor today. It is going to be fine.

I look forward to your statement and your questions.

STATEMENT OF HON. T. ALLAN McARTOR, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION

Mr. MCARTOR. Thank you, Mr. Chairman. It is my pleasure to be here with you today to discuss the progress we are making in the FAA, much of which I am very proud of, and to thank you for the gentlemen's agreement that we have reached, in that when I read the prepared statement last evening it was 34 minutes in length, and I appreciate you not making me do that again.

I would, however, like to read from part of the prepared text and then, with your permission, I would like to summarize the rest of it.

Impact '88, which is a program designed to recapture public confidence in flying while accelerating the modernization of our aviation system to safely keep pace with dramatic growth in air commerce, has progressed quite well, I think, this year.

But before I review what we at FAA are doing under Impact '88, please let me, Mr. Chairman, report to you that FAA is very much committed to working with Transportation Secretary Burnley in his call for FAA restructuring. Both of us are as impatient as the traveling public, Congress, and the industry about the need to fix our aviation system, and we share many of the concerns expressed by the chairman.

As the Secretary pointed out recently and certainly as I have experienced in my tenure at FAA, any attempt at major restructuring of the FAA must address the following five criteria:

One, rigid personnel rules that prevent efficient deployment of key personnel;

Two, burdensome procurement rules that prevent timely acquisition of new technology;

Three, the removal of the air traffic control system from uncertainties of the Federal appropriations process and lack of adequate resources on a long term basis;

Four, adequate oversight and maximum accountability to ensure public safety;

And five, uniformity and consistency in both safety regulation and delivery of air traffic control services at all levels of the organization.

Although neither Secretary Burnley nor I have endorsed any one particular proposal, we believe these criteria should be used to judge all current proposals. I support the leadership the Secretary has taken on these critical issues and expect that he will more fully discuss FAA restructuring during his appearance before this committee next week.

In the interim, I have been asked to testify on Impact '88 and I would like to turn to that subject now. In brief, I would like to say that no agency worldwide in my estimation is more up to the challenge than the men and women of FAA, and no aviation system on earth is as safe as ours.

But while the system is safe, we are witnessing pressures on the margins of safety which, if not aggressively addressed, threaten to erode safety margins and dampen the benefits of deregulated air travel to millions of Americans. I pledge that FAA will not allow those margins of safety to be eroded, nor allow more traffic into the system than we can safely handle.

Safety has its costs, however, and until capacity is increased some congestion, delays, and congested air space will continue. Nonetheless, we will continue to work hard to make more efficient use of our air space, and our efforts have been paying off.

In fact, I am pleased to report that total system delays dropped 14.8 percent last year, despite record volume, and monthly delays have been decreasing significantly since last July.

Now, if I may summarize the rest of the statement, we could if we wanted to review Impact '88 in the context of the eight major areas that I suggested as the areas that are going to require management focus in this fiscal year if we are going to show measureable important impact. Those eight areas would be air crew performance, airline accountability, airport development, air space capacity, advanced technologies, aviation awareness, security, and agency effectiveness.

Another way to look at it and the one that I have chosen to discuss with you today is to look at FAA or any control system as a combination of people, equipment, and procedures. And in order to show advancement and modernization, you must modernize either one or all of people, equipment, and procedures in order to show any true measurable impact.

The greatest leverage and improvement comes from improving people, the people that are already in the system—the pilots, the mechanics, the controllers, the technicians, the chief executive officers, and yes, even the management of the FAA.

Air crew performance was the foundation of Impact '88, not only air carriers, but commuters and general aviation pilots as well. I have met with pilots, the chief pilots, in Kansas City. I have spoken to check airmen and the other pilots of the air carriers. I have spoken with general aviation pilots in several locations.

For the first time, FAA has approved a cockpit resource management training program to share with the entire industry. We have issued guidance on the pairing of crews. We have issued new training program guidelines for commuter airlines.

We have redoubled, even tripled, our efforts with our "back to basics" training programs for general aviation pilots. We are completely reviewing pilot training regulations and how we certify and measure competency of pilots, to determine what makes a proficient and professional pilot. I am simply not satisfied that total flight hours is a measure of merit.

We are developing better policy, better handbooks, better training for our FAA inspectors in the field. We have introduced a concept called focus groups, which is the involvement of employees in identifying their problems in their work environment and solutions to that. It has been a highly successful employee communication program in the FAA.

We are reviewing all staffing standards for all areas of the professional work force, the total work force of the FAA, not just the controllers, to review the fair pay standards as well.

We have created supertower status, which is one of the things that I can do under my authority, recognizing an area that I thought needed to be addressed in the four major towers in the organization.

Organizationally at the FAA, we have introduced several reforms. Since I spoke with you last summer, we have created a position of executive director that has been highly successful at bringing corporate memory into the headquarters area of regional operations and involving the regional directors into virtually all the phases of FAA management, including budget.

We have a new human resources management associate administrator in Herb McLure, who comes to us from GAO and has a unique insight into FAA operations. We have created an organization of industry and government affairs. We have created an Office of General Aviation. We have also created a new program, a new emphasis program to survey feedback action, new training programs, a dual track training program on the effectiveness of controller training.

We focused on women and minorities with a great deal of management attention this year, and the responsibilities of chief executives in the airline industry.

On the equipment side, we have had a very successful host computer program. All 20 host computers are installed at our air traffic control centers. It is one of the real success stories of FAA and the NAS plan.

Our flow control is maturing now, where we are proud of its operation. The automatic situation display and the new Apollo software is installed.

We are developing a new national airspace system plan chapter called the transtion chapter, which focuses on training the human resource management of the NAS plan, recognizing that eventually we are actually going to have to pull this thing off and make it operate.

I was concerned that we make our agency as modern as the equipment that we are going to be developing over the next couple of years. I am pursuing a new organization within FAA to give us a better check and balance in the management of our NAS plan that will focus on planning, engineering, and management control.

We have also developed new concepts with respect to ground-based earth reference systems, such as Loran C and the acceleration of global positioning satellite technologies. As you know, we have rules requiring TCAS 2, and we have accelerated TCAS 3.

On the procedure side, very briefly, we can speak later if you wish as to the airline accountability program, Operation Snapshot, which is our look at the manufacturing industry and parts manufacturing industry, which tells us not only are they doing what we think they're going to do, but is the FAA modern in its procedures as well.

The Mode C rules, TCAS rules, I think we are all familiar with. We could talk about that more if you like, sir.

Our security programs, that was one of the emphasis items with respect to Impact '88. It is one of Secretary Burnley's emphasis items as well. We are working on parallel runway operations, more closely spaced parallels.

I think you recognize that this week we introduced a new minimum equipment list program, which changes the old policy, which was subject to abuse by both FAA and carriers, and that changes that. We have introduced a new study on commuter airlines.

Our traffic management offices are more effective than ever. The expanded East Coast plan is a success story. We are going to take that kind of innovative thinking to the West Coast plan and the southern California terminal airspace realignment.

And of course, the final issue that I would like to mention to you, which is one of the things I have struggled with this year, is a road map of how do we get more airports, how do we modernize, expand, and build more airports? I think we have to elevate the debate on airports to the national level.

It is not a state and local issue. It is a national problem, and we are attempting to do that.

Again, Mr. Chairman, I have tried to summarize very briefly what has gone on in the last seven months. We have done an awful lot. Like I say, we are quite proud of some of the progress. We have an awful lot of work to do and we think we are on track with understanding what our job is for the rest of the year.

With that, I would be more than happy to answer your questions.

Senator FORD. Thank you, Mr. McArtor.

I will let the chairman of the committee ask questions first. We are going to attempt to limit ourselves to ten minutes each on the first and each round, and we will go from there. I'd like to recognize our chairman.

The CHAIRMAN. I thank you, Mr. Chairman.

Mr. McArtor, I was listening to your statement and maybe I missed the word "controller." You see, if I were to take your job in the next ten minutes, from what I have heard over the past several years and otherwise that is the key issue and let me say that I command you for going around.

I will never forget. You remind me of Bobby Kennedy back in 1961 when he took over as Attorney General. He said there were 32,000 employees in the Justice Department and Attorney General's office, and there were only 31,500 that had never seen the Attorney General. So to talk to him. He and I and Broomis the dog kept walking door to door, and as we met people we got to chat.

I think that is very important, and the folks in your Administration know of your personal interest and that is one of the best ways to learn about the problems.

But if I took over, I would immediately try to get to this controller problem. What are you doing about that? There is a known shortage, and we are hearing different reports from time to time about the strain, lack of training, and everything else of that kind.

Tell the committee, what are we doing about it? There is an acute shortage right now.

Mr. MCARTOR. Yes sir, and thank you for the opportunity to expand on that, because that is in fact one of the very top priorities of my personal priorities this year. With respect to controllers, we all intuitively think we are short of controllers, certainly short to meet the growth of the system in the future.

But I do not think anybody really knows, including the FAA, how short we are, because I am not satisfied that our staffing standards reflect precisely what it is that we expect of the controller work force.

That is why this year I have asked for a complete review of staffing standards, not based just on what we expect the controller to do, but how does our system work? How do the transfers of controllers between facilities really work for us, and what are the difficulties in recruiting controllers into high cost of living areas?

So I want to create a better staffing standard. I want to create a fair pay understanding of how our controller work force is paid.

We have seven layers of management actually crammed into one civil service pay regime, which I do not think is appropriate at all.

Then we go back to training, because the numbers of controllers are only one part of the equation. There is a difference between how many controllers we need and how many we hire, because our training process is so inexact and so unpredictable and the washout rate so high that we need to develop a better way of training.

I have got two parallel studies in process right now. The final report will be given to us later this month of the effectiveness of controller training. We look at it from two different ways, and by this summer we hope to have redesigned the way that we recruit, hire, and train controllers, using simulator technology.

We are quite enthused about full tower/CAB simulation that we have researched, as well as the radar screen simulation. But we have got to develop a centralized training where we can train controllers on simulation, rather than sending them straight into the field and requiring or relying on on-the-job training, which is an effective but very inefficient way to train.

It should not take us three years or more to train a full performance level controller. So we have got to be able to compress that time, and we have got to have a more predictable training process, so that we know how many will report for duty from the numbers that we recruit from.

So we are going to completely change the way we look at that. You say, okay, great, that will take care of perhaps the way we do things in the future, but what are we doing right now to get the most out of the controller work force? One of the things we have got to do is listen to them.

The first focus group that we had, I went down and personally attended, and we talked to controllers. They came and, maybe even for the first time, senior management sat down and listened to their concerns about their work environment.

And on the spot right there, we actually improved their environment by listening to them on two rules that had been in place up to that point in time. It was a very effective program and very popular with them.

And we are trying to involve controllers now in identifying the problems that they are experiencing and coming up with the solutions. I think we have a very good working relationship with the new controller union. It is very positive. Their goals are the same as ours.

We are also trying to make sure that the supervisor level, the first level of management, is trained as best we can. That truly is the measure of merit of any organization.

The CHAIRMAN. How about the actual selection, not just the training now? That is a fine approach, a comprehensive approach on the education, training, and employment. But in an emergency situation, in talking with those controllers, haven't they asked for additional controllers immediately and pointed out there are plenty of them out there that have been well trained and conducted the job for quite a period of time in a very safe fashion and are available?

And until this ongoing, very deliberate, comprehensive approach for education, training, and employment gets into fruition, how are you going to add 1,000 on between now and January?

Mr. MCARTOR. Well, there are two pools that perhaps you can go to. One we are already tapping, which are early out separatees from the Air Force. In the southwest region, as a matter of fact, we have taken on several of the air traffic controllers that came to us from the Air Force. That compresses our training program and will accelerate the FPL's.

As far as those controllers that were fired during the PATCO strike, if my memory serves me correctly, we are averaging about 257 or so some odd days of training that it takes on average for those that have come back to us through the appeal process of controllers that had previously been hired.

They need to be retrained as well. Many of them are of the age where they would be looking toward retirement almost immediately as they came on board. So we have seen no value added to bringing those people back onto the work force at this time. But we certainly have taken a hard look at it.

The CHAIRMAN. Are you going to meet your goal of actually bringing on the number of controllers authorized, particularly fully-trained controllers, in light of those who are retiring?

Mr. MCARTOR. We are going to meet our Congressionally imposed goals for totals. As far a the FPL levels go, because of the phenomenon of when I take an FPL out of one facility and move him to a more critical need facility, he loses his FPL status until he upgrades again to be an FPL controller in that new facility.

So we have that feature in the system. Well, rather than not put him into the new facility where I need him and keep him where he is so I can count him as an FPL, we could fall short maybe by 500 or so on the FPL levels for this fiscal year.

The CHAIRMAN. Thank you.

Senator FORD. Let us get down to some nitty-gritty, Mr. McArtor. How many days have you been on the road since you have been in office, and how many days have you been in office?

Mr. MCARTOR. Well, sir, I do not know the exact number there. As part of our Impact '88 program, we made a conscious decision, in order to regain public confidence and in order to develop the morale necessary to pull off the rest of the program, that it was important for me to visit the users of the system—the airlines, the pilots, the general aviation pilots, the air traffic control facilities, the FAA in the field.

We did that consciously during the fall. Much of that activity now has passed. It still is important for us to get out into the field.

I doubt very seriously, for instance, that we would have a rule right now with more safe air space over Los Angeles had I not been there at that working group, or even the security program that we have if I had not been at the security conference in San Francisco or talking to the chief pilots or the general aviation pilots in Akron and Canton and Aberdeen, South Dakota.

So the travel that I have done I think has been most important, and it has proved to be very, very effective with respect to the public and the agency itself. I might say that I could probably spend 100 percent of my time on the road and not get everything done that I would be obligated to do, and 100 percent of my time in Washington and not get everything I am obligated to do.

But in anticipation perhaps of a similar type question and by contrast, these are the things that I have done on the road here this year and these are the requests that I have had to turn down of similar types

of activities on the road. So we are trying our best to balance priority with what needs to be done in the field, where the FAA is and aviation is, and what needs to be done inside the Beltway with understanding the policies and leadership required here at headquarters.

Senator FORD. Your request is similar to ours, and usually you send an assistant to do lots of that. So with that statement, how many assistants do you now have in your office compared to previous Administrators?

Mr. MCARTOR. One or two of the unfortunate things that happened two Administrators ago is that the entire organization that was used as an effective bridge to the Department of Transportation, that was in essence a similar secretariat, a secretariat group that would interface with the Department and other agencies and Congress, was dissolved.

And that left the operational agency to try to do a dual role of both operating the agency and interfacing effectively with more policy-oriented types of things. I am trying to recreate a similar kind of arrangement by putting together an Impact '88 group which provides some of that interface activity.

I have roughly 21 to 22 direct reports, and I must say that that is a bit unwieldy as far as the span of control. But that includes associate administrators and assistant administrators, as well as the regional directors that are in the field.

And we have added one, as I mentioned earlier, with respect to the executive director.

Senator FORD. How many do you have now compared to previous Administrators? You have got the 21 and you added a couple more, and you did not add that on top of that. So I am getting around 23 or 24.

How does that compare to previous administrators?

Mr. MCARTOR. Well, we had about 100 that served one administrator in this regard. That was the group that dissolved. I think since my predecessor, I have probably added, I am going to guess, maybe six or seven individuals to the executive staff since Admiral Engen's time.

Senator FORD. One of the problems that we have is trying to estimate the future. I understand there is considerable difference between the FAA's forecast of traffic growth and the industry's figures, which were made public last month.

This concerns me, in that FAA has consistently missed the forecast for commercial aviation growth eight out of the last ten years. So it is not on your watch, but it is getting worse.

I have seen tables that show that FAA has underestimated traffic growth 40, 50, as high as 60 percent. The FAA does not have a good track record in this area. My concern is that your budget request is based on these figures, and these figures are used to base your lower budget request. I think the two play together a little bit.

The low forecast may be the major factor contributing to the FAA budget deficiencies. I would suggest you meet with industry representatives and hear their side and re-examine their figures with you. Can we expect some kind of re-examination of the projection for growth by your agency, and can you do something like that?

Mr. MCARTOR. Absolutely, sir.

Senator FORD. Because the FAA has been consistently off the mark. There ought to be something we could do better.

Mr. MCARTOR. Well, the art and science of prediction and forecasting, of course, is at best difficulty, and I found that true in private enterprise as well as government. I was concerned as well as you were at the apparent discrepancy between industry projections and our own.

I have to try to understand whether those are projections developed with real knowledge or whether they are somehow tied to marketing activities or stockholder perceptions. But nonetheless, we of all people do not want to be caught short with our preparation for growth. We understand growth to be very rapid, and the last thing we would want to do is underestimate it.

I do not know that we are necessarily undershooting budget-wise because of that, but we are sure going to find out. In order to provide better emphasis on our ability to strategically plan and forecast, I have actually formed a strategic planning group for the first time in FAA that will ensure that we are much better equipped in strategic planning so that we in the industry know where we are headed with respect to air traffic control and the numbers.

Senator FORD. It has been reported that FAA has reduced, in-trail separations of aircraft on final approach at 13 airports, from three miles, down to two and a half miles. And you are considering extending the reduction to another half a dozen or so airports.

What prompted FAA to make the change and how are your controllers handling the increased traffic?

Mr. MCARTOR. Actually, sir, there are 14 airports, I think, that have the reduced trail program, which began in 1985. This really is a capacity and efficiency program, as opposed to any kind of erosion of safety, and it is only done when there are very, very specific restrictions. And if I could paraphrase the restrictions, you have got to have clear weather, qualified people, all the equipment working, and a dry runway before you would do this.

So it is only done in the best of circumstances. And it is done with every bit of adherence to safety as we possibly can, and only when the controllers can effectively handle it.

So it adds about anywhere from three to five arrivals per hour, which can have a major capacity impact on a given airport. But we feel that these are standards of air traffic control and do not impact safety at all.

Senator FORD. Certificated airports are given only 44 days to comply with the recently-revised FAR Part 39 airport certification regulations. Considering that FAA took almost two years to promulgate the rule, could you please tell the committee why certificated airports were not afforded a reasonable amount of time to comply with the major changes contained in the new part 139 regulations?

Mr. MCARTOR. To be absolutely candid with you, no, sir, I cannot tell you why they were not given more time.

Senator FORD. Would you look at it and see if you can give them a little more time?

Mr. MCARTOR. I will be more than happy to look into that and be happy to report back to you and the committee on that, sir.

[The following information was subsequently received for the record:]

PART 139 CERTIFICATION

The revised Part 139 of the Federal Air Regulations was published in the Federal Register on November 18, 1987, with the effective date being January 1, 1988. At the time of the Federal Register publication, the compliance period was considered reasonable since several of the more difficult areas to comply with (such as new safety area requirements and new certification manuals) had either grandfather provisions or a specified time in which to comply with the requirements (one year for the manuals). In anticipation that some airport operators would have difficulty in complying, such as in the marking and lighting areas, we knew a number of exemptions would be necessary.

However, in early January when it became obvious that some airport operators were having difficulty understanding the new requirements and may not have had adequate time, because of the holiday season, to determine if any exemptions were necessary, immediate administrative action was taken to extend for two months, until February 29, the transition time for requesting exemptions.

To our knowledge the majority of those exemptions have now been filed. We are, quite frankly, surprised by the number of airports seeking exemptions, particularly in the areas of marking and lighting. As a result of this larger than expected number of requests for exemptions, I have asked my staff to determine whether additional administrative relief is needed. To date that determination has not been made.

Senator FORD. Well, we will keep right on going, then, and get some things done here.

I am about ready to run out. I am just going to hold some of these questions. I am going to get warmed up and I will give it to Senator Kassebaum.

Senator KASSEBAUM. Thank you, Mr. Chairman.

Mr. McArtor, I would like to ask you about your Operation Snapshot, which is the safety inspection program for the aircraft manufacturing industry. I know you have been to Wichita, Kansas, to inspect or participate in one of the inspections.

I would like to know what you are finding, and how successful you believe the program to be, and what you hope to accomplish?

Mr. MCARTOR. As part of my basic question that I seem to ask almost daily of all kinds of areas, knowing what we know now, are we doing the right thing, we wanted to ask that same question of our manufacturing industry and our parts manufacturers: Knowing what we know now, are we doing the right thing?

Are we certifying the aircraft correctly? Are their quality assurance programs up to standards? Are they monitoring their sub-suppliers for parts?

The flip side of that program is also asking ourselves the same questions: Knowing what we know now, are we doing the right thing? So we expect feedback from the manufacturers to say, are the FAA regulations with respect to manufacturing current and modern, are they reasonable?

We are going to be looking at a little over 40 of our manufacturers and suppliers, 40 out of some 1300 in this country as a cross-section. We are about halfway through with that program. We think it is a very successful program.

We are actually quite satisfied with the quality assurance programs that we are finding in our manufacturers. It gives us comfort in knowing that there are quality programs there.

We are also interested in how we are taking care of advanced technologies, fly by wire systems, glass cockpits, composite materials, those kinds of things that require special quality assurance. We are trying to learn from that as well.

Senator KASSEBAUM. Do you monitor in this particular program, say, the manufacturer's recommendations as to safety modifications which should be made by purchasers of airplanes, and whether those recommendations are kept up to date?

Mr. MCARTOR. Well, we are looking at all of their recordkeeping, both what is required and what maybe ought to be required, and also the computer-based recordkeeping. I am not satisfied, nor is the rest of the agency, that we really have very good ability to monitor data bases for recordkeeping.

It is almost like, okay, you have got it on the computer, but we want a manual record to back it up. We need to get more modern with that thinking.

But the quality assurance is for the most part the manufacturing cycle itself what we are inspecting, as well as recordkeeping.

Senator KASSEBAUM. Do you have any thoughts on aviation product liability?

Mr. MCARTOR. I think it is very, very serious, particularly with respect to our general aviation industry. It appears to be a real barrier to competitiveness in general aviation, and I would certainly hope that the product liability issue will be very carefully debated and that we will have some national standard for that in the very near future.

Senator KASSEBAUM. Well, we hope so, too. We have carefuly debated it.

Now, I understand you have established a general aviation office within the FAA, is this new? Has there ever been one before?

Mr. MCARTOR. It is new to what I call the recent FAA. There used to be a very high level office of general aviation in the FAA. Organizations, of course, change depending on who the administrator is or what they feel to be the most appropriate structure.

But in our flight standards division, we are opening a general aviation office. I am very pleased to say, by the way, that Mr. Ed Fell is going to head that office for us and it is designed to be more responsive to the general aviation industry, to be more responsive to the needs of general aviation.

Not that that office is going to do all the work, but to ensure that it is getting done someplace. So we are very excited about that.

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Senator KASSEBAUM. Are you going to use them to help explain your Mode C rulemaking?

Mr. MCARTOR. Not only to help explain, but perhaps in the future to help formulate rulemaking. We want to be as balanced and fair and appropriate in our rulemaking as we possibly can, up to and including the participation of user groups in rulemaking, just like we used in the Los Angeles TCA. We involved the user group out there and came up with probably a far better product than either one of us could have done by ourselves.

We also intend to use user groups to help design the terminal control areas, the nine new ones that we are exploring, before we even go out with an NPRM. So it certainly is our intent to involve the general aviation user community much more than has been done in the past.

Senator KASSEBAUM. Are you getting some feedback already on your proposed Mode C rule?

Mr. MCARTOR. Yes, ma'am. We have received a lot of fan mail with respect to that proposed rule, and I suspect that it is just starting.

I might say that the circumstances surrounding the recent Mode C rule are a bit unfortunate, in that we were driven by a deadline to get a final rule out, which compressed by necessity the comment period, which I think is not appropriate for a rulemaking of this particular kind. It was only 45 days.

We were trying to be as responsive as we could to the letter, as we understod it to the Congressional intent. But I think that in balance the comments that we have received and our own analysis, we think that there may be some significant restructuring of that rule with regard to Mode C altitude encoding transponders.

Senator KASSEBAUM. There has certainly been strong support here for Mode C transponders. But I think, speaking for myself, I was surprised at the extent of the area of coverage. And you say this may be something that you are re-evaluating?

Mr. MCARTOR. We certainly wanted to get good comments back on it. It really is not necessary from my point of view, although I believe the industry understands that they really need to deluge us with mail if they are really going to get our attention.

That simply is not the case. We already know what the comments are, but we needed to get those comments in and we needed to ask them about some of the worst case types of conditions.

But yes, I believe and I personally am going to support change in the rulemaking itself that I think will be more responsive to our current problems that we have in the air space and the balance of reasonableness with the general aviation community.

Senator KASSEBAUM. Following up just a bit on Senator Hollings' question about the air traffic controllers, one of the difficulties I have been made aware of is the pressure on controllers during peak times. I understand that that has moderated to a certain extent and the pressures on tower personnel have decreased.

Am I correct on that?

Mr. MCARTOR. Well, towers, TRACON's, and en route centers as well. I think, quite frankly, we are getting better at what we are doing. We are better at scheduling ourselves.

We are better at sector design. We have more tools at our disposal right now. We have a much more reliable computer in the Host computer coming on line. We are getting better at our hand-offs, where we overlap one controller with another. They plug in and work together for only a couple of minutes, sometimes for 20 minutes or more, depending on peak hour activity.

So I think, quite frankly, we are getting better at what we do. I think our controllers are as vigilant and professional as they have ever been. So I think things are working much better.

Senator KASSEBAUM. Have you not been also trying to get the airlines to move away from overscheduling at peak times? How successful have you been at that?

Mr. MCARTOR. Well, I do not know that the success is necessarily ours, but there certainly has been a change. The airlines have, I think, given more attention to the quality of their product to their ticket-buying public so that they do not have unrealistic expectations.

They themselves have voluntarily scheduled on a more realistic basis. They have on-time performing obligations now, and that has driven them to some more realistic scheduling.

We have had some very good cooperative efforts, particularly, for instance, with the runway closure at LAX airport. We had some very good voluntary actions to try to spread the departures and arrivals and even cancel some flights out there.

So I think airlines are becoming both more realistic with their scheduling and more sensitive to the quality of their product to their ticket-buyers.

Senator KASSEBAUM. In the five criteria that you listed in your statement, you mentioned removal of the air traffic control system from uncertainties of the Federal appropriation process. If that could be accomplished, would you be supportive of an independent FAA?

Mr. MCARTOR. No, I think what I meant by that was perhaps the back half of that sentence. It is the continuity of funding issue that is so difficult for us to manage in the operations of the FAA. And I will presume that when we say air traffic control we are talking about the operating side of the FAA, not just the air traffic controllers themselves.

But it would be the airway facilities specialists and the NAS plan and that which operates on a day to day basis. That is the part of the FAA that is so difficult to manage with respect to this discontinuous funding or the absorption of continuing resolution phenomenon.

So I think that the measure of merit of any restructuring of the FAA has to address all three things: continuity of the funding, flexibility in in personnel matters, personnel issues, and procurement. Those three things have to be addressed, and then of course oversight and accountability as well before we can really decide whether any one solution is a better solution than another.

But just to talk about a separate FAA does not mean much to me until we go to that second or third or fourth level of detail.

Senator KASSEBAUM. I would agree with that, and there are those of us who are trying to address that point.

Senator FORD. That is what we are trying to give him.

Senator KASSEBAUM. Thank you.

Senator FORD. Senator McCain.

Senator MCCAIN. Thank you, Mr. Chairman.

Again, MR. Chairman, I would like to express my appreciation to you for traveling to Phoenix and holding a very important oversight hearing in my city. I not only appreciate your presence, but we were grateful for the money that you spent while you were there. Thank you.

Senator FORD. There were no racetracks there and so therefore I probably saved a great deal.

It is a shame the FAA people who testified did not stay around to hear the local citizens.

Senator MCCAIN. Indeed, Mr. Chairman. And if my time allows, I will mention that. I think it did not create the best of impressions. But nevertheless, I am grateful to you and the staff for taking your valuable time and being there.

Mr. McArtor, welcome to the subcommittee. First I would like to mention an area of great concern, I know, to you and to me, and that is the subject of aircraft safety.

Sometimes on this committee we would have semi-debates about the direction in which aviation safety was headed, and 1986 was the safest year in the industry's history. Unfortunately, in 1987 we went back to a higher accident rate than we have had in, according to my information, since 1974. Is that the information you have also?

Mr. MCARTOR. Yes, sir, there is no question the accident rate for large carriers was higher.

Senator MCCAIN. One of the reasons or one of the problems that I think has surfaced here, and it is of major concern, is that these accidents have largely taken place on commuter airlines. There have been serious questions raised as to the experience level of those pilots or air crews on those commuter airlines, coupled with another problem that we see now, and that is the enormous drain on the military as far as their pilots are concerned.

I was told by the Navy and the Air Force that the airlines this year will hire more than the total number of pilot graduates that will come from the Army, Navy, Air Force and Marine Corps. It seems to me we have a very long term problem here.

We are not going to be able to fill those requirements through the military pool, so to speak, nor do we particularly want our experienced and talented military pilots to leave the military, as you know, to work for the airlines, although some will always be attracted to do so.

Most importantly, it seems to me we are facing a long term problem, with the continued expansion of the airlines, of providing qualified air crews in the cockpits of not only our major airliners but our commuter airliners.

Do you share that concern? And if so, what are your plans concerning it?

Mr. McArtor. Well, Senator, you are more familiar than most with that phenomenon, and I appreciate your concern and I would agree with it as well. Only those who are close to aviation operations maybe are aware right now of what truly is an emerging crisis, and that is pilot availability or pilot shortages.

Recognizing that last summer is precisely why I wanted to understand what is the level of experience of a pilot, what constitutes a proficient pilot. It is not flight hours, I am convinced. Is it time in type? Is it number of landings in the last 90 days?

If there is a measure of merit that we are not now using with respect to pilots, we want to find out what it is. So we started studying that last year. We can anticipate this fall, for the first time probably since the introduction of the turbojet aircraft, FAA rules and regulations with respect to training programs and pilot proficiencies and how we certify our pilots.

Having said that, we also want to make best use of the pilots that we have on board. That is why we started this program with cockpit resource management, which was very, very effective.

But I have met with the leadership of the Air Force. I have talked to General Cassidy at the Military Airlift Command, with the Secretary. As a matter of fact, I meet with the Chief next week to talk about pilot shortages, pilot training.

I have met with the universities who are sponsoring ab initio training. I have met with General Tolman down at Emory Riddell. We have talked about a discipline training that would somehow fit in between, say, ab initio training out of a university, such as the North Dakota program, that would then provide some of that discipline and precision training that used to exist as the product of the military training, and have it perhaps even a mandatory program if we got that far, that says we know what kind of training a pilot has gotten.

But we do not want to presume that, just because a pilot has 1500 hours or 3,000 hours, they have somehow reached some level of competency, particularly if they have got 3,000 hours of trans-Atlantic time on the autopilot.

So we want to understand what makes a proficient pilot. We want to know what it is going to take, the knowledge, skills, and ability to get in the right seat of a commuter airliner, for instance. And we are going to find out that answer.

But you have identified, sir, one of aviation's most serious emerging problems.

Senator McCain. When would you expect some preliminary findings in this regard?

Mr. McArtor. We think we are going to have some reform with respect to certification of pilots this fall. Already we are seeing payback in the cockpit resource management area. For the first time, FAA has actually approved cockpit resource management programs, after having talked to the industry and finding out what works best and now sharing it with the rest of the people in the industry.

But we have a very aggressive program right now working with the universities and flight training schools to try to understand just where is the seed corn going to come from in the future of aviation.

Senator MCCAIN. For the moment could I divert your attention to what some may view as a parochial issue? I do not, because I view the Grand Canyon as not only a treasure for the State of Arizona but for the nation and the world. Two and a half million people from all over the world every year visit and enjoy the Grand Canyon. As you are aware, after three years of effort Congressman Udall and I, with the assistance of many members of this Committee, were able to get legislation enacted which would provide for certain restrictions concerning overflights of the Grand Canyon to restore the peace and natural quiet that people had been able to enjoy for many, many years before some 50,000 flights annually were conducted over the Grand Canyon.

Just to refresh your memory, Mr. McArtor, the Department of Interior was supposed to forward to you, and indeed did, a proposal that took into consideration the requirement of the law, which says, "the recommendation shall provide for substantial restoration of the natural quiet and experience of the park and protection of public health and safety from adverse effects associated with aircraft overflight.'

Then, according to the law, as you know, those provisions were sent to the FAA for their review and their recommendations. Again, I would like to remind you that the law says the FAA will review the recommendations consistent with the requirements of paragraph 1. Paragraph 1 is the paragraph that I just recited that says "provide for substantial restoration of the natural quiet.'

I received a briefing on the FAA's not-yet-enacted proposal and not only in my view, but in the view of the environmentalists, many of the air tour operators, the Parks Department, and the overwhelming majority of the people familiar with the Grand Canyon, the proposal does not meet the criteria of paragraph 1 that I cited to you.

I am just frankly and deeply concerned about whether you and your people fully understand the intent of the law, as I see it, because the current proposal is not in compliance with the law and, in my view, does not restore the natural quiet of the Grand Canyon, nor does it provide sufficient flight-free zones to do so.

Without sounding too harsh, I think you have got some dedicated and hardworking people that work for you that have done the best job they know how. I am afraid they have lost sight of the intent of the legislation, and I would like to hear your response.

Mr. MCARTOR. I do appreciate the opportunity to comment on that. I apologize to you for squinting, sir. It may be poetic that there is a bright spotlight just over your right shoulder.

Senator FORD. It is a halo.

Mr. MCARTOR. We are very much aware of our obligation with respect to the Department of Interior and I hope Interior was not at all offended when we reminded them on several occasions that we were awaiting their guidance. It took a long, long time for it to get to us.

Our understanding of our obligations with respect to that law is that the Department of Interior would set a scheme, a plan, and that save for any safety concerns at the FAA, we were to implement that plan and submit it. Well, in fact we do have safety concerns.

As you have been briefed, Senator, we have had several meetings with the Department of Interior, with the Park Service. As a matter of fact, I think there is another one going on even as this hearing is. And we do have some reservations.

The Park Service, for instance, had designed an air corridor which would feature head-on traffic of airplanes and we widened that corridor to what we felt was a safe air separation between aircraft. The Department of Interior had reserved about 45 percent, I think it is, of the Canyon as restricted space, and after applying our safety concerns we are about 40 percent of the Canyon. So I think we are probably closer than some would think.

But we are very, very conscious of what our obligation is with respect to the Grand Canyon, and we look forward to trying to reach a consensus with you and the Department of Interior and others who are interested to make sure that we do preserve safety.

But, in all honesty, we do have to recognize that it is we that are charged with maintaining air safety and not the Department of Interior. But I think we can reach a successful conclusion.

Senator McCAIN. I am nearly out of time. Mr. Chairman. If I could just follow up on your answer, sir, those corridors clearly do not establish any quiet zone over the parts of the park where about 95 percent of the visitors view and enjoy their hike or camp in the park.

Reduction of 45 percent to 40 percent is misleading in that the park is very large—212 miles long and some 20 miles wide—and the fact is, where your people have cut a corridor, and a wide one, indeed cuts right over the area where about 90 percent of the people enjoy the Grand Canyon.

Mr. McARTOR. Yes, sir, I understand that.

Senator McCAIN. The intent of the legislation was to put in quiet zones so that the majority of the people—not everybody and not throughout the entire park, but the majority of the people—could enjoy the park without the constant drone of aircraft overhead. And, very frankly, there is no one who has been involved in this issue who thinks that the present proposal, which I am happy to note is not in concrete, meets that criteria.

Mr. McARTOR. Well, without debating this very special issue with you, I think the south rim, where most people view the canyon, also happens to coincide with where the airport is, and that is where we have our most difficulty of protecting the safety around the airport environment.

But one thing I will pledge to you, Senator. If there is any misunderstanding or mistaken impression that the FAA is not sincere in its efforts to cooperate on this issue, we can certainly correct that right now. We are appreciative of our obligation here, and we will work very, very closely with Interior to make sure that we do develop a very safe and environmentally acceptable plan.

Senator McCain. Thank you. Thank you, Mr. Chairman.

Senator Ford. Senator Exon.

Senator Exon. Mr. Chairman, thank you very much.

I appreciate your coming back over to meet with us, Mr. Administrator. I just want to say everything that I have heard is that you are doing an excellent job over there. You have got things moving.

I would like to follow up just for a moment on the consumer issues, since we will be going into conference on several bills that have passed both the House and the Senate. I got into Omaha, Nebraska early the other day on a flight, which was somewhat unusual. Then I checked the schedule and I found out, strangely enough, that on this particular flight evidently the schedule has been changed.

We traveled it in the same amount of time. The flight was in early because the schedule had been changed, and a longer time had been allowed for that flight, which I thought maybe was merely honesty in scheduling. Has some of the fact that the flights have been the result of arriving on time been changes in the time allotments on the airline schedules?

Mr. McArtor. Absolutely. Of course, en route times change with the seasons as well because the wind changes, but there is no question about the fact that airplanes or air schedules reflect a more realistic flight time now, and part of that is done voluntarily by the airlines and some of it is because of the pressure of the on-time performance reporting obligation of the airlines.

Senator Exon. Well, I have no quarrel with a airplane getting in earlier, as I said. It is an interesting step in the right direction, a little bit of honesty in scheduling, which I think is what we were after all along.

I also have noticed that there have been less complaints coming in with regard to loss of baggage and things like this. Do you have any statistics on this? Has there been a marked downturn in the complaints that have come to you and your agency?

Mr. McArtor. Senator, I do not have data on that. The Department of Transportation may have. But I think on balance I believe that the quality of the airline product, industry-wide anyway, is improving because of, I think, the demand of the public that quality be a measure of merit as well as price.

So it would not surprise me that lost bags are improving, although my family lost one last week.

Senator Exon. There was a recent newspaper story about the pilot of a commuter that crashed last yuear near Denver, being on cocaine, if I remember the story correctly. Do you have any further information on that other than what appeared in the newspaper story?

Mr. McArtor. Well, sir, the NTSB, of course, is continuing to investigate that particular accident and we do not really know the cause of the accident, but it was most alarming to those of us at the FAA and aviation professionals and pilots in general to receive a report as released by the NTSB that traces of cocaine were found in the pilot's system.

That is of extreme concern to us and, if nothing else, points to the fact that we believe we are on the right track to propose rules requiring drug test programs with respect to all of commercial aviation.

Senator EXON. Regarding the shortage of pilots, in the Armed Services Committee this morning we had the Secretary of the Air Force, and the Secretary of the Navy, who were complaining once again about the loss of pilots—not navigators so much any more but pilots—from the armed services.

That matter came up here again today. If we are continuing to lose pilots out of the armed services, I suspect that most of those are going into commercial aviation of some type, and yet there is a shortage in commercial aviation and that is a major concern. Is this primarily because there are fewer pilots or is it more of the situation that there are more flights which require more trained pilots. Or is it simply a combination of the two?

Mr. MCARTOR. I think it is a combination of the two, Senator. But the growth aspect, the demand for pilots is the driver in this. I do not think we can assume, though, by the way, that all of the pilots leaving the armed services do in fact go to fly for commercial airlines, but certainly the armed services provided a very meaningful farm club of pilots over the last 20 years for commercial aviation.

And the reason that it was so important was that the military-trained pilot was a predictable product. We knew exactly the kind of training he had gone through, the kinds of emergency procedures and judgment factors that they had gone through, and the discipline. So it was easy to know the competency of a pilot having earned his wings through that kind of a program. And the military flight profiles themselves were quite well known.

If we do not have that supply of pilots in commercial aviation we have to have another way to measure the competency of a pilot, and that is why we are working so hard on understanding that right now, and the FAA certainly can determine programs that can measure the competency of a pilot much better than we have in the past.

Senator EXON. If I understand some of the recent reports in the newspaper clippings that I have read, the main shortage of highly qualified pilots are in the commuter airlines, rather than the regular major airlines. If I understand it correctly, a lot of the commuter airlines are a training ground for the pilots that move then into the older line airlines.

Is there a shortage today of pilots of a critical nature with regard to the major, regularly-scheduled airlines of long standing, or is the shortage coming up in the feeder system?

Mr. MCARTOR. The crisis as such is an emerging crisis, not a real-time present problem. I do not know of any major airline that really has substantially had to cut back on what it wanted, that it wanted to grow more routes but could not do so because of lack of pilots.

It is an absolute fact, though, that the major air carriers go to the commuters for their input of pilots, and pilots as they work themselves up through the ranks go to the commuters to fly with an opportunity to

join a major at some future date. But I do not know that that is necessarily a bad kind of system, as long as we know what are the knowledge, skills and ability required of a commuter airline pilot and are we getting those and do we know how to measure when we have got it.

So that is why we are trying to develop a means to develop good pilot training programs with as much discipline as we have in the major air carriers, so that we do have quality pilots in the commuters. We should not necessarily be concerned that they are not qualified right now, but it is a problem that, left unchecked, will emerge into a much bigger problem.

That is a major feature, by the way, of the special investigation of commuter airline operations that we just started here a week ago, is to take a look at the pilot side and the operations side.

Senator EXON. Congratulations also for your continuing efforts, from what I can tell, with regard to making certain that maintenance is properly performed. I see you took after one of the majors the other day. That has been a concern of myself and this committee and my compliments to you and your organization for being on top of that.

Thank you. I have no further questions.

Senator FORD. Senator Danforth.

Senator DANFORTH. Mr. McArtor, I have two concerns, both of which involve proposed rulemakings, and it may or may not be appropriate for you to comment on them but I just want to share them with you.

First, I understand that Senator Kassebaum has raised the issue of the proposed rulemaking on Mode C transponders. I can tell you that this is a real firestorm, at least in my state. People are coming to the town meetings to discuss it. They feel that the legislation that we enacted was reasonable, but that the proposed rule is not reasonable.

They have two objections to it. The first objection has to do with the 40-mile, is it radius?

Mr. MCARTOR. Yes, sir.

Senator DANFORTH. And the second objection has to do with the veil concept versus the wedding cake concept. My understanding is that the wedding cake concept, which is now, as I understand it, the rule, is that the transponders are required in increasingly large diameters of space over an airport, whereas the veil concept is you start with the largest diameter and drop the veil.

Those are their two concerns. They tell me, for example, that ordinary crop-dusting planes would no longer be able to operate. One pilot from St. Joseph, Missouri, told me that the effect of this, for all practical purposes, would be to shut down the St. Joseph airport.

I am not sure the degree to which you can comment on this, except I can say that Senator Hollings, I am sure, and I know I, when I had some hand in doing this, intended to promote safety. But we did not intend to do something which would be widely viewed throughout the country as being just totally unworkable and objectionable.

Mr. MCARTOR. I would be glad to comment on that, and let me look at it from two or three different angles with you. To begin with, the terminal control area itself is in fact the inverted wedding cake design. It is a graduated air space that starts small right over the airport and then builds outward. We created a rule, effective last December 1, that says if you are going to fly in the TCA you must have a Mode C. Very little objection to that rule at all because it was widely recognized that if you are going to fly in that environment you have got to have a Mode C transponder.

The veil concept, which we had a proposed rule requiring a 30-mile veil, was somewhat overtaken by this last notice of proposed rulemaking, but the veil concept is not a TCA rule. It is an equipment rule. It says you can fly VFR underneath that TCA, just like you do right now. You can leave your small airport and go fly, but you have got to carry a Mode C transponder with you when you do so that we do not confuse.

That traffic in our two-dimensional radar screen becomes mixed, then, with the traffic that is under IFR conditions above it, and unless we know the altitude of it we have a conflict or do we. And so we have got to be able to identify where that aircraft is. Is he where he ought to be, underneath the TCA, or is he up in the TCA where he should not be?

That is why we are asking them to carry the Mode C transponder. No, we are not going to keep cropdusters from flying. There will be provisions to allow people to fly that particular mission. We could not see a cropduster on radar if we wanted to. We are not going to shut down aviation at small airports.

I think it is safe to say that upon our own analysis and the comments that we have received right now I suspect that there will be architectural change to the rule that we put out, particularly with respect to the 40-mile radii. So I think we can anticipate change.

We are certainly trying to look for a balance between unrestricted access and safety with respect to the Mode C altitude encoding transponder, but thanks for calling my attention to the firestorm.

Senator DANFORTH. Have you heard from these people?

Mr. MCARTOR. Oh, yes, sir. I certainly have, and I certainly do not mean to be flip. This is a very, very serious rulemaking.

Senator DANFORTH. It really is serious because these people—and there are a lot of them—have invested tremendous amounts of money in aircraft and tremendous amounts of time. I mean, just this one group that I met with in Kansas City, they went around the table with the number of hours they have flown in their lives—thousands and thousands and thousands of hours.

So it is really a major part of their lives that they were talking about, and they see this real threat to something that is clearly very, very important to them. Obviously I do not have the technical expertise to have a view one way or the other, but I can tell you that it is a major concern.

As I say, they agree with the law that we passed, but if the FAA believes that the statute compels something that large numbers of constituents would view as just totally anathema to them, obviously we would want to change that law.

Mr. MCARTOR. Yes, sir. Certainly there is no mischief involved in the FAA's drafting of that proposed rule. We were trying to be as responsive as to what we thought the Congress had asked us to propose, and, knowing full well some of the comments that we would get back, having drafted that rule, we were trying to be responsive to the Congress.

We knew what those comments would be. You used the term very real or very present threat. There is also another very real and present threat, and that is the phenomenon of the near mid-air collision and the actual possible event of actual mid-air collision.

We have determined as a country that one of the best electronic devices we have as protection against that is the Mode C altitude encoding transponder. It allows any airplane with it to be a participant with the air traffic control system. It allows it to be a participant with the TCAS system, the airborne collision avoidance technology. So it is not surprising that general aviation will see more rules that do reflect requirements for Mode C altitude encoding transponders.

But also they need to be fair and balanced rules that take into account just that amount of air space that is required for right now, and if we need more later we will have to go back with rules later to get it.

Senator DANFORTH. Well, the people I met with want safety and they have no objection to the statute, but they think that the combination of this 40-mile rule plus the veil is just overdoing it as far as they are concerned.

Mr. MCARTOR. I think they have very good points and you should know and perhaps relay to them that we are listening to them very, very seriously and we take this job of trying to develop this rule extremely seriously.

I wish we had more time for comment periods on it, but I am not sure that that would get us any new information. It may get us more information, but I think we have got a pretty good handle on how the industry thinks.

Senator DANFORTH. Let me ask you one other question. This relates to the foreign repair stations proposed rulemaking. There is a concern that although we can monitor or police the quality of repair on aircraft that is performed within the United States, there really is not any significant quality control for repair that is done elsewhere.

I again forward that concern to you for whatever comment you care to make.

Mr. MCARTOR. Well, we would challenge the idea that we cannot monitor quality in a foreign repair station or to assure that it is developed up to our standards. There is in fact a major facility in Portugal that does as good or better a job than any facility that I have seen in the United States.

If you are geared to do that and you make that one of the things that you in fact do as the FAA, is to license and monitor these stations, they can operate as responsibly as anything else.

I think foreign repair stations reflect certainly an acknowledgement of the global operating environment of aviation and the fact that there are so many foreign suppliers that combine with U.S. suppliers to develop the aerospace products that we have right now.

I am really not sure that it is necessarily a labor issue or taking jobs away from U.S. mechanics. I think it is reflective indeed, though, of a global aviation community that probably does need to have a quality provision for foreign repair stations.

Senator DANFORTH. Well, let us suppose that you had in the age of deregulation a very cost conscious airline that said well, it is going to shop the lowest labor costs that it can possibly find and does so. Obviously that would be a loss of jobs, but it could also be a loss of safety, could it not?

Mr. MCARTOR. I do not equate necessarily the wage rates with safety, Senator. I do not believe that you have to sacrifice safety there, but I do not know which would lose more jobs—whether the health and profitability of the industry itself would create more job, or whether going to a foreign repair station would have greater impact. I tend to believe that if the industry can remain healthy it will maintain and continue to hire more aviation professionals than an unhealthy or struggling industry.

Senator DANFORTH. I might only say, since my time is running out, that I am very skeptical that you are going to get satisfactory work if airlines are free to shop whatever cut-rate service they can find. It seems to me that that could have a very detrimental effect on safety.

Senator FORD. I want to associate myself with Senator Danforth's earlier question. You have the sponsors of that amendment. However, I think you have gone far beyond their intent. If we have to make other arrangements, we are pretty apt to do it.

Senator Hollings.

The CHAIRMAN. Mr. McArtor, very quickly, because we have a roll call on, I am looking for an example, namely an example to show us a development program that would substantiate the finding of the FAA in the NPIAS that the capital needs for airport improvement during the next ten years is around $24 billion, or namely $2.4 billion is need each year.

I am looking down the road at a supplemental bill. We now have appropriated $1.3 billion in the present budget for the Airport Improvement Program, and I am looking for an example of how you can use more. I am not asking you to request another $1 billion, but to flesh out and substantiate the FAA study of the needs. So, if you can give me an example of a developmental program of runways, taxiways, and the like, to the tune of $2.4 billion as an example of how that need could be met. I would appreciate it.

Do you know the study I am talking about?

Mr. MCARTOR. I am really not quite sure what you are referring to, Senator.

The CHAIRMAN. Well, you have got a study at the FAA that says for the next ten years we are going to need about $24 billion for airport development, or $2.4 billion a year. And what I am trying to do is get it up from the $1.3 billion that has been appropriated in fiscal year 1988 to $2.4 billion. I do not want you to go through OMB and ask the administration a blooming thing. I just want you to answer my question, and you can send that answer up here and say, substantiating the study, this is how we factored it out.

For example, in the next year here is what we could use. The "Grand Canyon" that this Senator is disturbed about is the canyon between spending the money I do not have and not spending the money I do have. Specifically, our Federal budget deficit for this year is increasing, without the trust fund, growing to around $241 billion. We are borrowing over $500 million a day just in carrying charges and interest costs to support that deficit financing.

We are spending all kinds of money I do not have, yet I am looking over there and the trust fund is building up to $6 billion. We have got a tremendous need for it. You identified the need. Today we have airport executives from around the country running around here now.

This time next year, this silly Congress will be passing a jobs bill because we have gone broke. Why do I not get ahead of the curve, take the money out of the trust fund, at least what you found necessary, in a deliberate, studied fashion, and we can handle it intelligently?

I think we will have to have a supplemental for the Coast Guard and several other programs for this year. And I want to get the aviation needs in, thereby ending these meetings with aviation people, where we say—"yes, I have got the money and you have got the need. It is certainly justified. Mr. McArtor says by summertime it is going to be a safety matter with all the increase in traffic. I need more runways. I need more taxiways. I need more navigational aids."

We are just at some kind of political standoff. You just give me the example, and I will get the money. That is what I am saying.

Senator FORD. If he was independent, he could do that; right now he is still quivering because he has to go through the Secretary of Transportation and OMB.

The CHAIRMAN. You just give me the answer to the question. I do not want a request from you. I just want an answer. Thank you.

[The following information was subsequently received for the record:]

NATIONAL PLAN FOR AN INTEGRATED AIRPORT SYSTEM

The study referenced in the question is the FAA's "National Plan for an Integrated Airport System" or NPIAS. Released in September 1987, the NPIAS concluded there is $24 billion in needs for airport development over the next ten years. The $24 billion in identified development needs is broken down as follows:

$2.6 billion to maintain the condition of the system; i.e., implementing special programs involving safety and security in which the FAA has special responsibilities, and assuring the physical integrity of existing airports by reconstructing and rehabilitating pavements and lighting systems.

$4.3 billion to bring existing airports up to current recommended design standards. Included are projects such as paving, extending, widening, strengthening, and lighting existing runways, providing taxiways and clear zones when they are absent.

$17.4 billion to increase capacity and expand the airport system to accommodate the increased volume of passengers and aircraft projected for the decade, including the construction of new airports.

It is important to stress that the NPIAS is only a plan for the development of public use airports in the U.S. As noted in the NPIAS, much of the $24 billion estimated cost of development over the next ten years will be accomplished without Federal assistance. Further, independent of the availability of funding, some of the development in the NPIAS will never be undertaken because of local decisions about the trade-offs between airport development and environmental concerns.

The differential between the $2.4 billion average annual need and the $1.3 billion Federal availability referenced in your question is representative of the non-Federal level of support. Development funded by non-Federal sources occurs at all categories of airports. For example at the largest airports, typical projects could include the eligible portions of terminal buildings, entrance and perimeter roads, and portions of airfield improvements. At the least busy general aviation airports, typical projects include development of new runways, runway extensions, and strengthening pavement surfaces.

Historically, FAA estimates that Federal funds make up approximately 35% of all airport development costs, with state, local, and private funds accounting for the remaining 65%. If the proposed $1.2 billion in fiscal year 1989 were continued for a full 10-year period and all the development included in the NPIAS were, in fact, completed, the Federal share of the $24 billion estimated cost of airport development would approach 50%—up from the historical 35%.

The FAA is actively working with States, local governments, and the private sector to pursue initiatives to encourage new airport construction and expansion to meet future ground space needs. We are also accelerating planning for reliever airports to relieve congested air carrier airports, identifying critical areas where additional capacity is needed over the next ten years and building a computer model of our national airspace to help local planners understand where they fit into the national network. We are also working to spur capacity building projects in our airport grant program.

Senator FORD. Thank you, Mr. Chairman.

We have to go vote, and I am going to call this hearing to a close. I have several questions for you, Mr. Administrator, on small airport funding, airport fees charged off, airport companies. I have got the Eastern Orion problem that I want you to answer for me, the Eastern safety problem. And we will submit those questions to you, and I have some more on the Mode C transponder.

Mr. MCARTOR. We will give you a response.

Senator FORD. Thank you for you patience, and we will look forward to seeing you again soon.

[The statement follows:]

STATEMENT OF HON. T. ALLAN MCARTOR, FEDERAL AVIATION ADMINISTRATOR

Mr. Chairman and Members of the Subcommittee

It is indeed a privilege to come before you today and report on FAA's progress under Impact '88, a program designed to recapture public confidence in flying while accelerating the modernization of our aviation system to safely keep pace with dramatic growth in air commerce.

Before I review what we at FAA are doing under Impact '88, let me, Mr. Chairman, report to you that FAA is very committed to working with Transportation Secretary Burnley in his call for FAA restructuring. Both of us are as impatient as the travelling public, Congress, and the industry about the need to fix our aviation system, and we share many of the concerns expressed by the Chairman.

As the Secretary pointed out, and certainly as I've experienced in my short tenure at FAA, any attempt at major restructuring of the FAA must address the following five criteria: (1) rigid personnel rules that prevent efficient deployment of key personnel; (2) burdensome procurement rules that prevent timely acquisition of new technology; (3) removal of air traffic control system from uncertainties of the Federal appropriations process and lack of adequate resources on a long-term basis; (4) adequate oversight and maximum accountability to ensure public safety; and (5) uniformity and consistency in both safety regulation and delivery of air traffic control services at all levels of the organization.

Although neither Secretary Burnley nor I have endorsed any one proposal, we believe these criteria should be used to judge all current proposals. I support the leadership the Secretary has taken on these critical issues and expect that he will more fully discuss FAA restructuring during his appearance before this Committee next week. In the interim, I've been asked to testify on Impact '88 and would like to turn to that subject now.

Through Impact '88, FAA has pledged to accelerate and redouble agency efforts to safely steer civil aviation through today's turbulent skies. No agency worldwide is more up to the challenge than the men and women of FAA, and no aviation system on earth is as safe as our's. But while the system is safe, we are witnessing pressures on the margins of safety which, if not aggressively addressed, threaten to erode safety margins and dampen the benefits of deregulated air travel to millions of Americans. I pledge that FAA will not allow those margins of safety to be eroded, nor allow more traffic into the system than we can safely handle.

Safety has its costs however, and until capacity is increased, some congestion, delays, and saturated airspace will continue. Nonetheless, we will continue to work hard to make more efficient use of our airspace and our efforts have been paying off. I'm pleased to report that total system delays dropped 14.8 percent last year despite record volume, and monthly delays have been decreasing significantly since last July. And since you asked for my prediction about this summer, temperature up, delays down!

I'm confident that several improvements will result in smoother, more efficient air travel this summer. Our flow control procedures are much more effective, due in part to experience and the introduction of aircraft situation displays and soon to be operational computer software to better track, predict, and reduce delays nationwide. Nationwide air carrier schedules are also more realistic and, some of our hub networks are beginning to stabilize.

Mr. Chairman, much more is at stake today in aviation than reducing congested airways and flight delays. America's ability to compete--at home and abroad--is directly tied to the capacity of our ATC system, and without institutional change and continuity of funding, I'm worried about FAA's ability to manage future growth.

I believe that we, as a Nation, were caught off guard by air commerce's rapid growth. It's no one's fault--not industry, the FAA, or the Congress. When one considers that in 1978 only 25 percent of Americans had ever flown and by 1987, 72 percent had, then the dimensions of the change become more apparent. At the same time only 3 years after deregulation, FAA had its PATCO strike and, with constrained staffing, was forced to play catch-up to pre-strike controller levels. Meanwhile, the rest of aviation was moving forward, fuel prices dropped, and pent-up demand exploded.

These conditions and others have led me, in my short seven months at FAA, to conclude that much more than incremental reform is needed. As Administrator, I found that I had all the responsibility for, and little authority over, civil aviation developments. Even with exhortations to change under Impact '88, I was limited because solutions to today's aviation problems were becoming increasingly non-operational: involving more agencies and a multiplicity of business, economic, and social interests. FAA's basic mission--separating airplanes, certifying airmen and aircraft, and providing airport security--must be better executed to meet the challenge of a rapidly expanding aviation system.

So FAA and DOT welcome any legislative support to help us meet today's challenge and help our country's civil aviation system remain pre-eminent worldwide. But I want to assure you that in the interim, we are fully committed to exercise the limits of our authority to fix the system. Mr. Chairman, given the limits of my authority, as anticipated in the Secretary's five criteria for reform, we've made significant progress un-

der Impact '88. As you know, Impact '88 highlighted eight major areas where FAA could either accelerate existing initiatives, develop new ones, or change directions to become more responsive to the safety demands of a deregulated aviation marketplace.

Underlying Impact '88, and central to recapturing public confidence in flying, are the people, equipment, and procedures which constitute our civil aviation system. All three must work in harmony for things to work. Our aviation professionals--the people inside and out of the FAA--need much more attention and care. We were so concerned with catching up with technology, automation, and the sheer lack of pilots, controllers, technicians, and inspectors needed to meet growing demand, that in some ways we lost sight of quality--the quality of the professional in the cockpit, control tower, and maintenance shop.

Likewise with equipment, we were allowing an enormous gap to develop--between hardware needed for today's mission and technology necessary for tomorrow; we were unable to buy old equipment to refurbish existing technology or effectively plan and procure new technology for the future. And finally, rapid growth and crowded skies require precision and discipline in our national airspace, yet too frequently procedures and regulations were not followed, perhaps because they were not easily under- standable, or were not appropriate for hub and spoke operation.

People offer the greatest payback and leverage for change so I would like to start my discussion on the people in the system. Last summer, before I even had an opportunity to work with all the people of FAA, we witnessed an alarming rise in pilot and crew errors. Almost daily, crews were reported to have landed at wrong runways and airports, pilot deviations from acceptable navigation standards were up, and reports of near mid-air collisions proliferated. There appeared to be a breakdown in pilot professionalism and crew coordination among our Nation's commercial and general aviation pilots. And safety data during 1987 reinforced our concern. Pilot deviations increased by 33 percent over 1986 and pilot reports of near mid-air collisions rose 26 percent. While neither statistic, given the total rise in flight operations and commercial activity for the year, represents an erosion of safety, they did help FAA pinpoint its aircrew performance initiative under Impact '88 as a significant problem.

Immediately after taking the oath of office, I called a meeting of the Nation's chief pilots and working with industry, started a major revision in pilot training and cockpit resource management programs. And last week, industry and FAA reached agreement on our first major product under this Impact '88 initiative. We are now issuing an advisory circular on criteria for FAA-approved cockpit resource management training programs. This breaks new ground for the agency and industry in quickly moving forward with training to prevent crew-related incidents and accidents. By this fall, we anticipate the first significant changes in pilot training regulations since introducing the turbojet over thirty years ago.

Additionally, to ensure that scheduling pressures and other operational concerns don't result in the pairing of relatively inexperienced crews, I issued an Air Carrier Operations Bulletin in January to advise carriers not to pair two relatively inexperienced pilots on the same flight especially in bad weather. We've stepped up our back-to-basics training for general aviation pilots, hoping to improve the general aviation pilots' skills and knowledge in flying near congested areas. I personally have visited with many pilot groups around the country, reinforcing the need to "fly smart, not scared" as we used to say in the Air Force. In fact, a month ago I created an Office of General Aviation to improve communication between FAA and the Nation's private and business flyers, our largest segment of U.S. civil aviation.

In this period of automated cockpits and advanced avionics, we must also remember that the most important wings on the airplane are on the pilot's chest, and flying in today's busy skies requires constant vigilance and professionalism. And Mr. Chairman, we are already witnessing some positive results from our efforts. NMAC reports for the four-month period ending February 1988, decreased 24 percent, and pilot deviations for a three-month period ending in November were also down, some 10 percent over the previous year. Pilots aren't alone either in our focus on people in aviation. Our Nation's airline CEO's must also redouble their commitment to safety. We need the same vigilance in our corporate boardrooms that we are asking for in our cockpits and control towers. I want to ensure that competitive pressures in the boardroom are not felt on the flight line, in the hangar, or in the cockpit. I want our Nation's CEO's to

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show me that the same personal care and accountability which go into company financial statements extend to their maintenance and operations programs. Accordingly, under Impact '88's airline accountability program, air carriers will be required to submit quarterly self-evaluation and annual reports, signed by the CEO's, on how well they are meeting their safety obligations, fleet-by-fleet, tail-number-by-tail number. We are issuing guidance on the self-evaluation program to industry this month.

Where air carriers identify problems and agree to take some positive action to improve their ability to comply with the regulations, FAA will enter into contract with the carriers to take such action by some date certain and waive, where appropriate, fines until that date. By making reporting of problems an incentive rather than disincentive, I hope to enter into hundreds of "contracts-to-fix" with carriers. I should emphasize that this will not relieve carriers of their obligation to operate airworthy aircraft or to otherwise meet basic requirements of their certificates. Mr. Chairman, while FAA's existing surveillance program will aggressively continue, I believe this new one could revolutionize the way we ensure quality control and compliance in a dynamic and growing industry. And as we found in the automotive industry, you cannot "inspect-in" quality. Our aviation industry must audit themselves to ensure a commitment to quality.

We've also extended our Impact '88 initiative on accountability to the manufacturing side of the industry. Through our operation snapshot program, we are taking a close look at a select sample of the nearly 1300 manufacturers in this country. We want to assure the same commitment to quality in aircraft production as we demand of our air carriers. And I want to make sure that FAA procedures for monitoring manufacturers are current and capable of handling the increasing internationalization of the manufacturing marketplace.

And last week, concerned about a series of commuter airline crashes, I announced a year-long, comprehensive review of that rapidly growing industry. I want to ensure that there is no underlying cause or trend to these recent crashes and make sure that training, management, and maintenance programs of part 135 operations fully comply with FAA regulations.

I'd like to close my discussion of people with a look at FAA because programs for professional accountability must also start at home. I want the people of FAA to be as modern as the equipment and technology in the system and up to the enormous challenge of today's civil aviation. Under Impact '88's Agency Effectiveness program, we've made a

large investment in people, and that investment is already reaping dividends. We've established employee focus groups, bringing air traffic controllers, maintenance technicians, flight service personnel, and other line FAA workers together with senior managers to discuss and resolve problems. I've attended three out of four focus groups we've had so far, and we have made significant changes in workforce practices and policies as a result. The men and women of FAA, some 45,000 strong, know what the operational problems are. We don't need further study, some one just needs to ask them. And that's exactly what we plan to do, through focus groups and significant employee involvement in decisions affecting the workforce.

I've also asked my new Associate Administrator for Human Resource Management, Herb McLure, to conduct a comprehensive review of employee pay and staffing standards and to suggest needed reforms. I must be able to staff critical air traffic control towers with good people and be able to attract quality talent to essential facilities where cost of living may be high.

I'm pleased to announce that we have already designated Chicago, Los Angeles, and Dallas as supertowers, allowing for controller promotions in those cities to better reflect the unequal distribution of air traffic at those facilities. We want to be sure that FAA managers have the flexibility to FAA managers to better meet workforce needs and hence traffic demands. As you may also know, Herb McLure brings to FAA an extensive and impressive background at GAO where he was involved in oversight and evaluation of many FAA activities. It's precisely that kind of experienced person and cross-fertilization we need at FAA, especially in the human resource management area, and we are planning many more needed employee reforms.

Mr. Chairman, we are also in the process of thoroughly reviewing controller training effectiveness. I plan to completely change the way we recruit, hire, train and retain the

controller workforce. We use simulators for pilot training and there is no reason not to simulate the controller environment as well. I believe we can greatly reduce the time needed to achieve Full Performance Level (FPL) status, and relieve the workforce of some labor-intensive, on-the-job training.

Morale among controllers is also improving and so is our ability to manage large volumes of traffic. Despite continued record volume of air commerce, operational errors--those attributed to controllers in the ATC system--have declined for seven out of the last eight months and are also down nearly 15 percent over the last eight-month period compared to the previous year.

Before I leave the agency effectiveness portion of Impact '88, let me add several other important initiatives. To ensure industry accountability, we must also make sure that FAA is responsive to its customers, whether they be involved in flying our airspace, certifying an aircraft, or complying with maintenance requirements. I plan to set up a senior level appraisal office in FAA to ensure that FAA--in both Headquarters and the field--is consistent in interpretation, enforcement, and service to our customers. I've also established an Office of Industry and Government Affairs, reporting directly to me, to improve FAA responsiveness to the increasingly complex demands of industry and intergovernmental civil aviation interests.

Advanced technology is another plank of Impact '88 and that brings me to an evaluation of the equipment in the airspace system. The Host computer, now installed in all twenty centers nationwide, has been our major success story this past year. Through NAS Plan, we have placed over 45,000 pieces of equipment in the field and over 90% of the major programs are well under contract and underway. That's the good news, but let me also share with you some less positive observations.

The NAS Plan is the Nation's largest civilian technology project since Apollo. But unlike Apollo, the NAS Plan is a journey, not a destination, and we should not think that sometime in 1995 or so, when all current projects are complete, that we will somehow be modern. With the rapid rate of change of technology on the market, Mr. Chairman, I'm concerned that many so called advanced technologies will be obsolete by the time we implement them. Government agencies are no match for private enterprise in this area, and FAA needs greater procurement flexibility and authority. I'm also very concerned that far too little attention has been paid to preparing people for and training them to use advanced technology. The Japanese understand that technology should serve people. In our country, as author Tom Peters points out, technology too often is planned to replace people. If we spend billions modernizing airway facilities, computers, radars, and navigational aids, it's shortsighted not to invest in training the people who will have to utilize the technology.

I've just instructed FAA to develop a major transition plan and introduce a new chapter in our NAS plan. Through human resource management and training, I want to increase acceptance of new technology and ensure that the full benefits of automation are realized.

So I've spent significant management time on the technology area. And I like to summarize several significant achievements. First, Secretary Burnley and I have transferred significant procurement authority from DOT to FAA. My authority to award contracts for needed safety technologies without OST signoff has jumped from 200 thousand dollars to 150 million dollars. That's a major improvement. But to responsibly handle added procurement authority, the FAA needs to significantly change the very way it plans, manages, and evaluates technology development.

I'm also working with the Secretary to establish better organizational and management controls over the NAS Plan, and I have developed a new organizational structure to provide needed checks and balances to FAA's technology planning. I am establishing a new senior management position and program area to plan and manage advanced technology and NAS Plan implementation, allowing us to more effectively evaluate technology requirements in a fast-paced, changing aviation system.

Under Impact '88, we've made some other significant strides in the advanced technology area. We've accelerated development of TCAS III, an upgraded collision-avoidance technology that reduces the risk of mid-air collision. We're also taking a hard look at microwave landing systems (MLS). I don't think FAA has done a good job of proving or promoting the benefits of MLS. Most agree in industry or Government that MLS is the landing system of the future, but we need a better plan of transitioning from ILS

to MLS. In the interim, we need to buy more ILS's and I've instructed FAA to do so. And finally, we've moved aggressively to fill the gap between today's urgent need for new equipment and the installation of systems for tomorrow, some years away. We've developed a transition plan for near-term procurements to more quickly replace existing hardware and refurbish old technology. We have requested $150 million in the FY 1989 budget to help bridge the gap from today to the installation of core NAS Plan equipment coming on-line in the '90's.

Mr. Chairman, I want FAA to begin planning for the next generation of aviation. I've accelerated development of satellite-based, data-link navigational aids, because all of FAA's technology still promotes ground-based solutions to air traffic control problems. I'm worried that unless we aggressively move more toward air-based navigational control, we will miss major opportunities to improve the safety and efficiency of our air traffic control system.

Technology also exists to simultaneously transmit that information through data-link to the controller with greater accuracy without voice, and faster than the current reliance on ground-based radar.

I'd like to leave equipment and move to the third critical area, procedures which, when taken together with people and equipment, constitute the cornerstones of our civil aviation system. I want FAA regulations, rules, and procedures, to reflect today's aviation environment. Many are either decades old--such as pilot training that I mentioned earlier--or aren't responsive to deregulated air commerce, hub and spoke systems, merged airlines, or new entrants to the system. FAA's charter is to ensure safety while promoting civil aviation, and we must do both more effectively.

For example, I found that rules for maintaining minimum equipment lists (MEL's) which establish repair requirements for air carrier fleets had not adapted to the phenomena of our hub and spoke system. We had an ineffective, easily abused policy that allowed some carriers to defer repairs for far longer than FAA envisioned when developing MEL guidelines. Announced in January and effective yesterday, FAA has significantly changed the MEL procedures to ensure greater carrier adherence to their maintenance requirements and reduce the time period by which needed MEL items can go unrepaired.

Airspace procedures constitute another major challenge for FAA. When skies around major metropolitan areas are crowded, Federal airspace rules must carefully balance all user needs to maintain safety and access. As you know, we've proposed nine new Terminal Control Areas (TCA's) and the use ?f Mode C altitude encoding transponders around busy metropolitan areas to reduce potential conflict between commercial and fast moving aircraft and our VFR, general aviation airplanes. I'm totally convinced that we can allow mutual co-existence in our airspace among 121, 135, and general aviation, but we must build airspace rules which are consistent with unique flying conditions around the country.

Flying the Los Angeles Basin is an entirely different challenge than entering final approach at O'Hare or LaGuardia, and our rules should reflect such differences. That's why last week we just put into effect a new, comprehensive, and easy-to-understand airspace rule in Los Angeles. The new rule provides added margins of safety to the travelling public by reducing potential conflict with general aviation over L.A., while establishing transition routes for VFR aircraft through the TCA. It's precisely the kind of balance we need throughout our Nation's airspace and a great example of how FAA, working closely with the user community, ought to develop procedures. We've also used procedural reform to make better use of congested airspace. The last phase of our expanded east coast plan went into effect last week; and last year, the first phase of the plan, we reduced delays along the east coast 38 percent. Under Impact '88, we are taking that planning tool across the country to achieve similar economies.

I'm confident that we will do even better than last summer Mr. Chairman, but I do expect some delays and congestion until more capacity is added to our system. And that brings me to airport development, a major part of Impact '88 and perhaps the most difficult one.

Lack of adequate runways is an emerging aviation crisis in this country. Hub and spokes, new route structures, saturation of certain airspace, and flight delays at some of our busiest airports highlight what is perhaps the biggest achilles heel and most difficult challenge in the years ahead--airport capacity. Simply put, we have more aluminum in the system than we do concrete.

In 1986, 18 airports each exceeded 20,000 hours of aircraft delay. By 1996, an additional 14 major airports will exceed 20,000 hours of delay. The year 1974 marked the opening of D/FW International Airport. Unfortunately, it also marked the last major airport built in this country. Even though the number of passengers carried by U.S. airlines has more than doubled from 207 million to 450 million, no major airport has been built since 1974. As you know, the FAA doesn't itself build airports or runways. What is needed are local initiatives to get the job done. We can help through grants and planning, but the major responsibility rests with local and state government. We have a national airspace system to run. The decision to build or not build a new runway in Dallas, for example, can have a great impact on traffic movements out of Atlanta; and that, in turn can affect traffic in and out of Chicago.

Mr. Chairman, the Administration is seeking balance between the needs of interstate commerce requiring a national approach to airport access and the rights of local communities to protect themselves against undue noise. This is a delicate but essential balance. I do not believe the answer lies in Federal preemption nor 100 percent local solutions. Today's battle over airport access threatens to pit IFR against VFR, major airlines against commuters and region against community--all for increasingly limited airport access. A major element of the solution lies in education about the role airports play in local, regional, and national economies.

A key feature then, of my call for action on airports, is an education campaign--at all levels of Government--to get across our message that airports are national as well as local assets. Their growth and maintenance are critical not only to keep American civil aviation competitive, but also for the benefit of the local economy. Major airports are among the most efficient and beneficial of all public works investments. New airports create new jobs. And for every job directly attributable to an airport, there are one or two other service jobs in the local economy. Air transportation has rapidly become a major local industry in a number of urban areas.

To help localities better plan airports with economic benefits in mind, FAA is developing a computer model of the Nation's airspace and airport capacity needs. We can then predict the impact of adding a runway or building a reliever airport. I want St. Louis to understand how the proposed new airport in Denver will affect traffic and the economic picture in Missouri. And I want all communities who plan to make the difficult choice of building a new or expanding an old airport to be able to turn to FAA for technical guidance on how such choices will affect their economic future and quality of life.

We must look at the larger picture. Because it's not just an airport issue. I'm concerned that America's aviation competitiveness is at stake because of our aging, outdated, and limited number of airports. When I say competitiveness, I mean much more than simply the profit/loss statements of commercial airlines. Commercial air travel for some years has been the number one form of intercity transportation in the country. Interstate commerce and American industry's ability to compete at home and abroad are tied to the health of the airport system.

Mr. Chairman, 1987 was an extraordinary year for civil aviation. Never before had aviation faced such intense scrutiny. In fact, Newsweek called it "the year of the near miss". Well, unless we as a Nation join forces around common aviation issues, this year may be dubbed the year of missed opportunities. We have a golden opportunity to reap, for years to come, the promise today's challenges hold. To do so, we must take a larger view and look to American civil aviation in the 1990's and beyond. Will we be able to maintain the benefits of deregulation for the American flying public? Will we have enough landing space to keep American industry competitive at home and abroad? And can we restore public confidence in the safest, most efficient transportation system in the world? I know that working with you and your Committee, we will be successful.

Thank you very much.

[Whereupon, at 3:21 p.m., the hearing adjourned.]

[The following information was subsequently received for the record:]

QUESTIONS OF SENATOR FORD AND THE ANSWERS THERETO

1. Mr. McArtor, can you give us an assessment of progress on your Impact 88 initiatives--especially those with safety implications? Are you satisfied with the FAA and industry response to the challenges you issued at that time?

Answer: I am pleased to report on the FAA's progress under Impact 88. There are many accomplishments that I would like to share with you.

Under the Aircrew Performance initiative, we are in the process of a major review from top to bottom of pilot and crew training and cockpit coordination procedures. We believe that, in the present complex deregulated environment with modern high performance aircraft and increasingly automated systems, special attention needs to be placed on pilot professionalism, crew coordination, and human factors of cockpit management. We have worked closely with industry and already have underway a major revision of pilot and cockpit training programs. We will be issuing an advisory circular on criteria for FAA-approved cockpit resource management training programs as a means of preventing crew-related incidents and accidents, and we plan to showcase exemplary industry programs that heighten pilot awareness and increase professionalism. The changes we propose will be the first significant modifications in pilot training regulations since the turbojet was introduced over 30 years ago.

We are working jointly with industry to finalize details on the air carrier self-evaluation program. Under the Airline Accountability initiative, we are planning that air carriers will submit quarterly and annual self-evaluation reports, signed by the CEO's, on how well they are meeting their safety obligations. I want to ensure that the same personal care and accountability that the CEO's put into the company financial statements extend to their maintenance and operations programs. Additionally, we have launched Operation Snapshot, where we are taking a close look at a select sample of nearly 1300 manufacturers to assure the same commitment to quality in aircraft production as we demand of our air carriers. We are also developing in conjunction with the industry a "contract to fix" program which I believe can revolutionize the way we ensure quality control and compliance in a dynamic and growing industry. This program will encourage carriers to identify problems and agree to take long-term positive action. FAA will enter into a contract with the carriers to take such action by a specific date and, where appropriate, fines will be waived until that date. Immediate critical safety matters, of course, will not be waived. I believe this program will allow the carriers to be better able to look long range and correct systemic problems.

The growing shortage of airport capacity is a major problem with potentially severe impacts on the efficiency and growth of air commerce in the United States. An action plan is under consideration to promote airport capacity development efforts and increase the ability of the national airport system to accommodate predicted user demands. At the same time, the Administration is seeking balance between the needs of interstate commerce requiring a national approach to airport access and the rights of local communities to protect themselves against undue noise.

I believe we will not solve the Nation's lack of airport capacity issue until people understand the problem is national in scope, that lack of adequate runway space at Denver does affect St. Louis, etc. FAA is developing a computer model of the Nation's airspace and airport capacity needs. We can then be able to predict the impact of adding a new runway or building a new airport on other parts of the country. This will be a great aid for communities that are planning to make the difficult choice of building a new, or expanding an existing, airport because it enables them to predict the impact on capacity and economics as well as on the quality of life.

The unprecedented growth in aviation has severely strained the capacity of our National Airspace System to deal with the increase in air traffic. As a result of our Airspace Capacity initiative, our flow control procedures are much more effective, due, in part, to experience and the introduction of aircraft situation displays and soon to be operational computer software to better track, predict, and reduce delays nationwide. We have proposed nine new Terminal Control Areas (TCA's) and the use of Mode C altitude encoding transponders around busy metropolitan areas to reduce potential conflict between commercial and fast moving aircraft and VFR general aviation airplanes. We are working to modernize our airspace rules to improve safety and efficiency while reflecting the unique flying conditions around the country. We have also used procedural reform to make better use of congested airspace. The last phase of our Expanded East Coast Plan went into effect last month; and last year, the first phase of the plan, we reduced delays along the East Coast 38 percent. Under Impact 88, we are taking that planning tool across the country to achieve similar economies.

The Advanced Technology initiative was targeted on the basis that the modernization of civil aviation is currently not keeping pace with increased growth demands on our system. As an adjunct to that effort, we have developed a transition plan for near-term procurements to replace more quickly existing hardware and refurbish old technology. The Host computer, now installed in all 20 centers nationwide, has been our major success story this

past year. Through the NAS Plan, we have placed over 45,000 pieces of equipment in the field and over 90 percent of the major programs are under contract and well underway.

We have accelerated development of satellite-based, data-link navigational aids, because all of FAA's technology still promotes ground-based solutions to air traffic control problems. I am worried that unless we aggressively move more toward air-based navigational control, we will miss major opportunities to improve the safety and efficiency of our air traffic control system.

Efforts under the Air Transportation Security initiative are aimed at instilling public confidence in airport security. Toward this end, a national inspection program has been developed to evaluate the effectiveness of the overall civil aviation security program and 4 of 16 inspections of the Nation's major international airports have already been completed.

Public confidence in the safety of the airways is the target of the Aviation Awareness initiative. A comprehensive set of indicators for monitoring and measuring the safety of the National Airspace System is being developed. Two films and two public service announcements spotlighting FAA's security program have already been completed.

Under the Agency Effectiveness initiative, which is geared toward personnel development and more effective agency management, we have established employee focus groups bringing air traffic controllers, maintenance technicians, flight service personnel, and other line FAA workers together with senior managers to discuss and resolve problems. I have personally attended four of the five focus groups we have had so far, and we have made significant changes in work force practices and policies as a result.

We are in the process of thoroughly reviewing controller training effectiveness. I plan to change completely the way we recruit, hire, train, and retain the controller work force. We use simulators for pilot training, and there is no reason not to simulate the controller environment as well. I believe we can greatly reduce the time needed to achieve Full-Performance-Level (FPL) status and relieve the work force of some labor-intensive, on-the-job training.

Secretary Burnley has transferred significant procurement authority from DOT to FAA. My authority to award contracts for needed safety technologies without OST sign off has jumped from $200 thousand to $150 million. We are examining closely other measures that will improve the agency's procurement processes.

I am very pleased with the FAA's and industry's response to the challenges issued under Impact 88 given the constraints within which we have to work. In fact I am pleased to say that industry and FAA have signed on with Impact 88, and we are making progress. Clearly, much more remains to be done, but I am confident in our ability to accomplish the remainder of the program.

2. The President's budget for FY 1989 calls for an increase for FAA Facilities and Equipment to $1.6 billion. Will this provide adequate resources for the FAA to proceed with the award of the Advanced Automation System production contract? Other than possible funding reductions, is there any reason why this contract cannot be awarded on schedule?

Answer: Our current schedule is to award the Advanced Automation System production contract at the end of July 1988. At this time, there is no known reason why this schedule cannot be met. The contract will be incrementally funded, and the budget request for $1.6 billion will provide adequate resources for the funding increment needed in the contract in FY 1989.

3. The budget for next year proposes a reduction for the Airport Improvement Program to $1.2 billion. In light of your calls for increased focus on airport development, how can this low funding level be justified? Why aren't you closer to our authorization level for FY 1989 of $1.7 billion?

Answer: A $1.2 billion level will allow assistance to airports to meet priority safety and security needs and to support significant capacity projects. Although this level will not satisfy all potential requests from airport sponsors, we will be able to continue major projects initiated this fiscal year and to initiate new projects in all categories of airports from general aviation to congested primary category airports.

This level also represents a balance between a reasonable Federal role in airport development and the Administration's attention to budget realities.

4. The President's budget calls for a 9.4 percent increase in the FAA's operating budget, providing for increased staffing commensurate with projected increases in aviation operations. Considering constraints on the budget and efforts to cut other programs, how do you plan to protect the funds needed to expand controller and maintenance work forces?

Answer: Because aviation safety is the primary responsibility and goal of the Federal Aviation Administration, we are committed to meeting our controller work force (CWF), field maintenance and inspector goals as we have done in the past. Regional managers will be given specific employment goals for these special interest employment areas and will be held accountable for meeting these goals. As in the past, the agency may have to cut back in non-safety areas to protect the funding of these work forces depending on the fiscal constraints and possible unanticipated costs that may occur in FY 1989.

5. The President's budget proposes to eliminate the current Congressional prohibition on contracting out FAA facilities maintenance operations. What benefits will the FAA derive by contracting out these services? What improvements have been made to your proposal to ensure that the work will be better performed under contract than by FAA personnel?

Answer: The pilot test program would afford the FAA an opportunity to assess the long-term benefits of contract maintenance. It would also permit us to test all of the procedures associated with maintenance of facilities under a contract environment, and assess changes that may be required in a contract environment in the areas of maintenance certification, training, response time, technical inspection, maintenance log book documentation, and coordination procedures with the Air Traffic and Flight Inspection organizations.

The statement of work for the pilot program does need to be adjusted slightly to reflect changes that have occurred in the field over the past 2 years. However, from its inception, the pilot test program was designed to assure continued high levels of facility performance and to contain a built-in mechanism to evaluate contractor versus FAA performance and costs.

6. Last year, Congress required the FAA to have in place an air traffic controller work force of 15,900 individuals, with 10,450 Full Performance Level controllers. It appears that you will meet the overall level; will you be able to reach the FPL level by September 30? What will keep you from reaching that statutory target?

Answer: The FAA will not be able to reach the Full-Performance-Level (FPL) controller goal of 10,450 by September 30, 1988. Beginning in FY 1988, FAA was directed to count FPL controllers as those who were both at the FPL grade and certified on all required positions. The change in definition resulted in a reduction of over 1,000 controllers who could be classified as FPL.

Under the old definition, the FAA believes that a goal of 10,300 could have been achieved. The FAA now estimates that the FPL level will be 9,932 by September 30, 1988.

7. There has been a great deal of discussion about how a major part of the problem related to increasing controller staffing was recruitment and training procedures. What improvements to controller recruitment and training are you considering to better meet future staffing targets?

Answer: Major efforts to improve the recruitment and training of controllers are underway in FY 88 and are expected to continue in FY 89 and beyond. The goal is to reduce the number of "washouts' and the time required for a controller to reach operational and full performance level status. The efforts include:

a. Establishment of a management network system to manage better the developmental pipeline.

b. Implementation of "operational position standards" so that all controllers will operate each position in the same manner.

c. Implementing a new national on-the-job- training and position certification (OJT) program to enhance the quality of OJT.

d. Establishing a national order on technical performance review (TPR) for evaluating the performance of air traffic controllers who maintain operational currency.

e. Implementing a new en route instructional program guide (IPG) that will provide a new training track that will better prepare developmental for the OJT process in radar training.

f. Acting on the two studies on ways to improve and expedite the air traffic controller training process being conducted by the HumRRo and NEF contractors.

   Final reports of the studies are due in April and May of this year.

   Funds are being requested in the FY 89 budget ($7,500,000) to initiate improvements which these studies are expected to recommend.

   We anticipate recommendations will include changes to our instructional work force.

   We anticipate the recommendations will include enhancements to current training hardware, courseware, and the use of innovative instructional technology and delivery systems.

g. Awarding a $60,000 contract to IBM to study the feasibility of enhancing the simulation capabilities of the DYSIM labs at en route centers by increasing their capacity through the use of PC's.

h. Providing full-time recruitment staffs within the Regional Human Resource Divisions.

i. Improving recruitment methods through newspaper ads, TV, magazine advertisements, and public service announcements

targeted for large metropolitan areas throughout the U.S.

j. Improving air traffic controller informational announcements about the job and employment process.

k. Reducing the pre-employment process time from 8-18 months to as few as 45 days.

8. One of the continuing complaints about the FAA is its poor management/employee relations -- even after the 1981 controller strike and the replacement of the most militant employees. Since being confirmed as Administrator, what initiatives have you undertaken to improve working relations with FAA employees and unions?

Answer: Some of the innovations planned or being implemented to improve human relations throughout the agency are:

- Expansion of the joint union-management Employee Involvement Process (EIP) from a pilot program in one region to application in several regions. This cooperative, participative process is designed to improve the quality of the working life while simultaneously increasing the productivity and efficiency of men and women assigned to the field airway facilities work force.

- Participation of the National Air Traffic Controllers Association (NATCA) (tower and center controller union) representatives with FAA in refining the agency's Supervisory Identification and Development Program (SIDP), subordinate appraisal process, FSS consolidation, and staffing standards for air traffic towers and centers.

- Expansion of the Supervisory Identification and Development Program from a two-region pilot project to FAA-wide implementation for air traffic facility first-line supervisor selections.

- Implementation of a Performance Management System (PMS), which provides for more timely and thorough performance appraisals, and recognition and award of those who perform above normal expectations.

- Revision of the agency's incentive awards program (employee suggestions and special achievement awards).

- Involvement of Employee Participation Groups (EPG) in making decisions affecting accomplishment of work.

- Acceleration of the employee attitude survey cycle from biyearly to yearly.

- Implementation of a special program involving "Focus Groups" from FAA job specialties. This is a process in which employees from an occupational group come together to hear the "State of the FAA" from senior management officials (including the Administrator) and then provide direct input to management on issues of concern relating to their work environment.

- Implementation of a telephone survey process which will allow us to sample employee opinion on major issues.

9. Secretary Burnley recently created a task force, which you will co-chair, to recommend internal reforms for the FAA. Please tell us your preliminary thoughts on what needs to be done to improve the effectiveness of the FAA?

Answer: On April 28, Secretary Burnley and I announced that the FAA would make substantial changes in the way the agency administers its safety programs. The changes result from the task force recommendations for internal reform in the FAA.

The task force recommended changes to the management structure of FAA's nine regions. Under the current system, the regional division managers who implement programs report directly to Regional Directors, who report directly to me. Associate Administrators in FAA Headquarters, who write the National policies and guidelines, have no line authority over program implementation or operation. As a result, there are inefficiencies in the organization and inconsistencies in FAA's relationship with the aviation community. Under our new structure, FAA's regional division managers will continue to have local decision-making authority, but will report to the Associate Administrators who are their functional counterparts. This arrangement will lead to far more consistent interpretation of policies and regulations. In addition, the Associate Administrators who have been responsible for policy development will now also be held properly accountable for how that policy is implemented. FAA regional directors will be freed from day-to-day operational responsibilities and given an enhanced role in monitoring the quality and effectiveness of FAA programs.

The recommendations will help achieve one of the major goals of my Impact 88 Program: to increase FAA effectiveness by improving the organizational structure and support systems. The task force highlighted several current FAA initiatives including plans for accelerating hiring of air traffic controllers and a comprehensive pay study, in conjunction with the Office of Personnel Management, to provide geographically based pay incentives and recruitment and retention bonuses. The task force also made major recommendations for improvements in personnel practices, procurement procedures, budgeting and rulemaking processes. These changes will improve our effectiveness until more fundamental legislative reforms are implemented.

10. What administrative steps can you take in order to alleviate problems that are confronting the FAA as a result of the procurement and personnel rules that the agency must currently operate under?

Answer: The task force was directed to review our procurement and personnel procedures. The task force recommended that the FAA and the Office of the Secretary propose modifications to the Office of Management and Budget Circular A-109 to tailor the procurement process more closely to the FAA's real time environment. The purpose is to maintain competition and adequate testing while having the flexibility to deal with the dynamic aviation industry. The task force also recommended that, at a minimum, the procurement operations staff be increased to support major programs and that a full scale study of procurement staffing be conducted to ensure adequate staffing and efficient use of key personnel.

With regard to our personnel procedures the task force recommended the development of a Management Intern pilot program designed to recruit high quality potential leaders and provide them with a broad background in FAA issues. The program will be geared toward both entry level college graduates with managerial potential and mid-level employees with a demonstrated aptitude in areas such as communications, leadership, interpersonal sensitivity, and problem solving. Moreover, the task force focused on improvements in our air traffic controller selection and training processes which are designed to streamline and expedite those processes, and, as noted in response to Question 9, highlighted ongoing efforts to study pay for FAA safety personnel. In order to expand the pool of available talent, the task force further recommended that the FAA increase its efforts to recruit qualified women and minorities for key safety occupations.

11. Former Secretary Dole, when leaving office, authorized the FAA to do its own Source Selection of Contracts for amounts up to $150 million. Has this helped alleviate the problems of micromanagement by DOT? What are some specific changes that you think are needed to better enable the FAA to do its job?

Answer: It is too early to evaluate fully the effects of the procurement delegation with respect to source selection. Further streamlining of the Federal Acquisition Regulations along with industry standards would help FAA do its job better. However, the DOT/FAA Task Force did consider internal reforms, within the limits of Federal procurement regulations, to improve the agency's procurement process. It made recommendations to streamline the acquisition process, increase the size of the procurement operations staff, and establish "dedicated project teams" for major acquisitions. The task force also presented recommendations, which the agency intends to adopt, to develop an overall program approval process, improve source selection procedures, expedite establishment of the new office for the Associate Administrator for Advanced Design and Management Control, and generally highlight the procurement function.

12. Many of the programs in the NAS Plan have been delayed, whether it be because of underfunding, contractor performance, or technical complexity. Regardless of the reason, what needs to be now done to move the NAS Plan ahead more aggressively?

Answer: The FAA has made substantial progress in implementing the NAS Plan, albeit problems have been encountered along the way causing delays in NAS Plan projects. NAS Plan focus is now shifting toward a strong implementation element, as well as system design/equipment design and development. The FAA needs to ensure that the momentum gained will not be lost. Management actions have eased the negative impact of funding shortfalls in the past, but the success of the next 2 years of the NAS Plan is linked directly to the funding authorizations for FY 1988-1989 and the annual appropriations. We can anticipate that funding shortfalls will translate into serious NAS Plan schedule delays, cost growth, and benefits erosion. Aggressive movement ahead for the NAS Plan can best be ensured through adequate annual appropriations.

13. Due to the delay, much of the equipment in the air traffic control system is reaching obsolescence--especially existing terminal automation systems. What is the FAA going to do to improve the reliability and capacity of these systems until the Advanced Automation System is implemented?

Answer: The FAA recently initiated a program called the Interim Support Plan to provide interim capabilities in the National Airspace System (NAS) to meet greater-than-forecast growth in air traffic demand and ensure the continued reliability/availability of NAS equipment as we evolve through the implementation of NAS Plan programs. This plan stresses improvements to the capacity of existing terminal automation systems (ARTS II, ARTS IIIA) and extending the life of other systems which are critical to the NAS through equipment upgrades. Projects contained in this plan are low risk, short term, and have a high payback. Specific examples of projects to improve the reliability and capacity of terminal automation systems include: ARTS IIIA solid-state memory, ARTS II separate flight plan file, additional multisensor/multiprocessor systems, additional ARTS II and ARTS IIIA radar positions, and refurbishment/replacement of ARTS IIIA disk drives/ARTS II tape drives.

14. It is my understanding that there has been a request that the FAA re-evaluate its current policy on Microwave Landing Systems (MLS), in light of the advances in the reliability of Instrument Landing Systems (ILS) and the technical and cost problems which MLS has encountered. What are your preliminary views on this subject?

Answer: A comprehensive benefit/cost study completed in January 1988 showed a benefit/cost ratio of 1.88 versus the ILS alternative. Although some refinement of the MLS transition strategy and deployment plan is underway to maximize early benefits and minimize the economic impact to the users, the operational requirements which brought MLS into existence still remain. As such, we presently plan to continue our long-range program for transition to MLS. As recommended in a recent Inspector General report, a TSARC met on May 4 to address the first MLS unit deployment, to examine the new strategy, as well as to review specific issues raised by the user community and others.

15. Last July, in a supplemental appropriation, $15 million was made available for ILS systems at 14 airports. I understand you have just recently issued an invitation for bidding on these systems. Why does it take so long for the FAA to make any progress in this regard?

Answer: Yes, we have recently issued an invitation for bids (IFB) on these systems. Our objective is to procure some of the same ILS's that are in the field operating today. In order to accomplish this, we decided to expedite the procurement process and selected the fastest method. Upon reviewing the procurement process, it was determined that the IFB was the most expeditious in this case. Since a sole source of this type typically requires 32 weeks, a request for proposal 45 weeks, and an IFB only 20 weeks, the IFB was selected. Additionally, the sole source process was not viable since three companies had expressed interest in the procurement. The process selected is the fastest provided under the current Federal Procurement Regulations. The procurement process was started in December 1987. Contract award is scheduled for July 1988. The specification used to purchase ILS equipment required revision since it had not been updated since 1975. Several items which have been the subject of technical negotiations in the past had to be clearly specified. In addition, several changes were made in the documentation requirements to take advantage of the latest Military Specification requirements and the latest software documentation requirements.

16. Given that airport and airway capacity constraints pose major safety and efficiency concerns, why doesn't the FAA have a more significant, far-reaching capacity research and development plan?

Answer: In recognition of the importance of airport capacity research, I have proposed to increase the funding level for airport capacity research projects from $25 million in FY 1988 to $40 million in FY 1989. I also agree fully that the agency's airport capacity programs need better definition and, further, that the FAA needs an organization that will permit us to better focus our R&D efforts to achieve greater effectiveness with the funds that are available to us. To this end, I have proposed the establishment of an Associate Administrator for Advanced Design and Program Management. The Airport Capacity Program Office will be assigned to the new organization where it will be in a much better position to compete for funds to address capacity constraint issues.

17. What is the status of the FAA's development of an airspace planning computer model to forecast system capacity and identify the needed staffing and equipment resources?

Answer: The FAA's development of an airspace planning computer model, the National Airspace System Performance Analysis Capability (NASPAC), is well underway and is receiving special emphasis as one of the Administrator's Impact '88 programs. The FAA is currently developing a computer simulation capability which will model and systematically analyze the NAS structure and answer "what-if" questions regarding the enhancement and management of the air traffic system capacity and performance. The immediate goal is to reduce airline delays. In addition, it would serve as a useful tool in helping FAA planners to predict and demonstrate a network of airspace and airport capacity needs and explore capacity-enhancing solutions.

Initially, two models are being developed in two phases; a simulation model, and a queuing model. Phase I models 58 airports and includes an initial capability demonstration which was completed in January 1988. Phase II models the en route structure and provides a more detailed functional capability. We expect to have an initial Phase II model demonstration by September 1988. Validation of results and analyses of the models' initial performances will guide follow-up model enhancement and simulation development.

The needed contract support for FY-89 is $1.8 million. Contract support includes software development and equipment. The projected staffing is being determined. We expect to have this staffing data completed in FY-89.

18. As you know, the House version of the Airline Passenger Protection Act requires the FAA to establish flight restrictions at about the 50 busiest airports. What is your view of this provision. Will it help the FAA better ensure aviation safety?

Answer: This provision would not help FAA better ensure aviation safety. Its effect, instead, would be to establish unnecessary restrictions at 40-50 airports. Experience with the current High Density Rule (in effect at four congested airports) indicates that rigid capacity controls, while effective for the sole purpose of restricting traffic, have serious limitations. On that point, we would note that the Congress, in the recently enacted Airport and Airway Safety and Capacity Expansion Act of 1987, is on record as disfavoring the High Density Rule and opposes its extension to more airports.

19. It is my understanding that the FAA has established simultaneous instrument approach operations at airports that, heretofore, did not meet established procedures for such flights. These approaches feature closely spaced visual segments which some groups believe to be unsafe. What action has the FAA taken to establish standard, empirical, development criteria for such flight operations? Why has this procedure proceeded without a complete FAA operational evaluation to determine the minimum safe runway separation standards?

Answer: We perceive this question to indicate our authorization for specific facilities to conduct simultaneous parallel approaches to runways separated by less than 4,300 feet. The FAA has authorized simultaneous instrument approach operations at Lambert-St. Louis and Denver-Stapleton Airports to parallel runways separated by less than 4,300 feet under specific conditions.

Prior to the establishment of these procedures, operational and technical evaluations were conducted by the FAA with complete involvement of industry entities at the local and national levels. Additionally, an analysis of the wake vortex implications for the proposed approach at Lambert-St. Louis was conducted by the Transportation Systems Center (FA-427-PM-84-1).

Existing FAA criteria authorize simultaneous operations to parallel runways separated by 700 feet during VFR conditions (ceiling 1,000 feet and visibility 3 miles). Runways 12L and 12R at Lambert-St. Louis are separated by 1,300 feet, and runways 35L and 35R at Denver-Stapleton are separated by 1,600 feet.

Specific weather minimums (Lambert-St. Louis, ceiling 1,500 feet and visibility 5 miles; Denver-Stapleton, ceiling 1,300 feet and visibility 3 miles) have been established for each of these procedures to ensure the safety and integrity necessary for conduct of these operations.

The instrument approaches specifically authorized at Lambert-St. Louis and Denver-Stapleton Airports feature instrument segments which ensure that a minimum of 4,300 feet is maintained between aircraft established on adjacent localizers and visual approach segments which require that prescribed visual separation standards are applied prior to aircraft transitioning from the adjacent localizers to the parallel runways.

Specific authorization was issued to FAA Handbook 7110.65, paragraph 5-126, Simultaneous ILS/MLS Approaches, to Lambert-St. Louis and Denver-Stapleton Airports which specifically endorses these operations. These waivers are site-specific and coordinated with the Office of Flight Standards prior to approval by the Director, Air Traffic Operations Service.

20. Where are we going in our airport capacity improvement program? It would seem that the FAA has done all that can be done in the area of reducing separation of aircraft without jeopardizing safety. Considering the funding for this effort appears to have been drastically reduced, what are your plans now?

Answer: There are still gains to be made in separation standards. By improving airport surveillance systems, we should be able to conduct simultaneous converging approaches in IFR as well as VFR operations. We should also be able to improve IFR parallel approach procedures. Demonstration of new surveillance systems will be underway at Raleigh-Durham, North Carolina, and Memphis, Tennessee, this year.

Beyond these programs, new systems must be developed for wake vortex detection and surveillance in order to make further improvements in separation standards.

21. Mr. McArtor, you were quoted in a recent aviation publication saying that the Federal Government "no longer can afford to remain in a purely reactive mode" on the issue of airport capacity. How do you propose to move FAA from reactive mode to an active one?

Answer: I believe the FAA must and will take a more active leadership role and become the catalyst in a national campaign to expand airport system capacity. To bring our airport development needs into sharp focus, we at FAA formed a team of FAA experts to analyze airport development requirements for this country. That effort, completed last December, resulted in the formulation of the Airport System Capacity Development Action Plan to assist state and local governments in building new airports and expanding existing facilities.

The program includes educational, planning, and funding initiatives that will support the development of a national system of airports that can meet current and projected capacity demands, enhance air safety, and help alleviate congestion and delay in our air transportation system. The program calls for the FAA to target those areas of the country where the issue of airport capacity is most acute, prioritize those projects that could yield the greatest benefits, and implement a public education campaign to focus attention on the need for additional airport development. The agency will also provide increased assistance to airport planners by designing a computer simulation model that will predict capacity problems and help identify potential solutions.

Other actions being taken by the FAA to assert a leadership role in airport capacity enhancement include sponsorship and support of airport-specific capacity task forces, support of computer-simulation model applications in airspace planning, and preparation and issuance of the Airport Capacity Enhancement Plan.

In FY 1987, two airport capacity task forces completed their work and issued action plans. We anticipate five more task forces will be completed in FY 1988. Two airports are considering new runways as a direct result of capacity task force efforts.

The airspace planning model, SIMMOD, is a fast-time computer simulation model used to simulate airspace restructuring and associated delay savings. SIMMOD was applied to restructuring airspace in the FAA's New England Region in FY 1987. Preliminary analysis indicates flight delay savings of approximately 50 hours per day. The model is being applied to the FAA's West Coast Plan in FY 1988.

The 1987 edition of the Airport Capacity Enhancement Plan projected the potential delay-reduction benefits of runway construction, new airspace procedures, new systems and equipment, and other capacity initiatives. The 1988 edition of the Airport Capacity Enhancement Plan will be issued during the week of May 16.

22. When can we expect the Aircraft Situation Display (ASD) to be fully implemented and available to the airlines and passenger organizations?

Answer: ASD has been available in the FAA's Central Flow Control Facility (CFCF) since last year. The Los Angeles Air Route Traffic Control Center also has ASD and is also currently undergoing evaluation. That evaluation will continue until enhancements are tested and delivered to all designated sites.

Additionally, we are awaiting the results of a communications study to determine avenues available for national ASD data distribution. As a result, we do not have a firm implementation schedule for ASD installation at our traffic facilities, but our current goal is for the end of calendar year 1988. We expect the communications study to be completed by the end of May and should be able to firm up our implementation plans and schedule at that time. As for the monitor alert function, we expect to have this capability in CFCF by June 1988.

23. We have had prior testimony from industry that the FAA Flight Inspection Field Offices, which develop and check instrument flight procedures, have been seriously affected by the loss of experienced specialists. Reportedly, pilots who are hired and trained, leave the FAA to fly for the airlines as soon as they are qualified to do so. We understand that the instrument procedures development and maintenance workload are backlogged as much as 2-3 years. Industry pilots fear that the safety of the system is in serious jeopardy and that immediate rescue measures must be taken by the FAA to reverse this trend and to rebuild the strength and experience levels of the FIFO's. What is the FAA doing to solve this problem and to assure that the system remains safe during the rebuilding process?

Answer: We have revised the method by which we fill our pilot vacancies. Position vacancy announcements are published every 90 days for all FAA Flight Inspection Field Office locations. This provides a constant pool of candidates for all the locations. Before this revision, our total staffing ran about 84 percent of that authorized. Using this new method, the staffing level has increased to 90 percent, and current hiring commitments will further increase pilot staffing to 93 percent. The majority of pilot new hires is for procedures development positions. We have just certified and implemented software on our automated procedures development system that enables the system to automate the development of 75 percent of all instrument approach procedure types. These actions ensure accomplishment of system priorities and safety.

24. In July 1984, a National Airspace Review Task Force met to review FAR Part 77, Objects Affecting Navigable Airspace, and to make valid recommendations for its revision. To date, the FAA has not issued any NPRM to start the implementation process. In fact, recommendations that were generated on this subject by a similar regulatory review group in 1978 have yet to be promulgated by the FAA. What is the status of the recommendations agreed upon by both the regulatory review group in 1978 and the NAR Task Group in 1984? When will the FAA actually publish an NPRM that reflects the recommended changes to FAR 77?

Answer: While the existing Part 77 contains safety ensuring regulations, the recommended changes to those regulations made by the two regulatory review groups deal primarily with the simplification and clarification of existing language and some modifications to improve the aeronautical study process. Therefore, the recommended changes are viewed as editorial and not of a safety nature requiring priority over critical safety issues.

A draft NPRM which incorporates the vast majority of recommendations of the two regulatory review groups is scheduled for review by the Office of the Secretary of Transportation in the near future.

25. Late last year there was a great deal of attention focused on a possible FAA plan for developing a national system of airports. What is the status of this proposal? Does such a plan exist on paper?

ANSWER: In late September 1987, the Secretary of Transportation approved the 1986-1995 National Plan of Integrated Airport Systems (NPIAS) and sent it to Congress. Copies were printed and distributed in early February 1988. The Airport and Airway Improvement Act of 1982 was amended by the Airport and Airway Safety and Capacity Expansion Act of 1987 which requires the publication of the NPIAS every 2 years.

With regard to our efforts concerning airport capacity, our response to question 21 highlights the thrust of our ongoing efforts.

26. Given the increasing numbers of allegations about the safety of Eastern Airlines, what is the FAA doing now to ensure its safe operation?

Answer: The FAA Southern Region completed a followup, indepth inspection of Eastern Airlines in December 1987. Significant changes in Eastern's operations were noted, especially in the maintenance program, as a result of the first indepth inspection findings. Some alleged violations were discovered, primarily with minimum equipment list (MEL) use. These are being processed.

As the labor management problems continue, the FAA has dedicated additional inspectors to conduct surveillance at Eastern. The Airline Pilots' Association post card campaign in which safety problems were reported to the FAA has also resulted in additional examinations of the company's operation.

In order to accomplish FAA management oversight of Eastern's situation, a focal point has been established in FAA's Southern Region and in Washington headquarters. These offices collate all of the available information on Eastern, track progress on various issues, and provide briefing updates to senior FAA management. Additionally, the FAA, as discussed in response to question 27, is conducting a special 3-week inspection of Eastern.

27. It was recently reported that FAA inspection reports indicate that the only way Eastern will remain in compliance with FAA operations and maintenance requirements is with another indepth inspection. Are you planning another indepth inspection?

Answer: The FAA has announced its plan to carry out a special 3-week inspection of Eastern Airlines. That special inspection will entail "hands-on" ramp inspection of 100 percent of the aircraft owned and operated by Eastern. These ramp inspections will cover a variety of areas, including a review of logbooks to determine deferred maintenance items, chronic mechanical problems, the nature of pilot complaints, and compliance with inspection times. Our safety inspectors will also examine the exterior and interior condition of the aircraft as well as other operational and maintenance aspects associated with the operation of the aircraft. A final report containing the inspection results is planned for mid-May.

28. The recent contract between Texas Air Corporation and Orion Air has raised many concerns, especially in light of deficiencies found by FAA inspections at Orion. What is the status of the FAA's review of Orion Air's application to become certified to provide Part 121 passenger services?

Answer: The FAA continues to work with Orion Air on its application to conduct passenger operations. A few programs have been approved such as the flight attendant training program and some of its manuals. Parallel with this process, the FAA is working with Orion to correct the deficiencies noted in its indepth inspection conducted in 1987. All of these deficiencies are to be corrected prior to the completion of the certification for passenger operations.

Significantly, Eastern is no longer contracting with Orion for replacement service in the event of a strike, having rescinded its contract on May 4.

29. The recent Notice of Proposed Rulemaking implementing congressional requirements for expanded use of Mode C transponder has generated a great deal of interest from general aviation pilots throughout the country. There remain, however, several open rulemakings, such as the one making uniform and expanding the size of the Terminal Control Areas. What will become of those proceedings now that the Mode C NPRM has been published?

Answer: Notice 87-7, published on June 16, 1987, announced the FAA goal to establish standard dimensions for TCA's. Actual expansion of any TCA was not proposed in that notice. Such an action would have to be the subject of an individual rulemaking action and is normally preceded by an informal airspace meeting in the local area of the TCA primary airport.

Specifically, Notice 87-7 proposed to expand the pilot and equipment requirements to operate in TCA's as follows: (1) the pilot-in-command of a civil aircraft operating within a TCA would be required to hold at least a private pilot certificate, with a limited exception for student pilots receiving certain documented training (i.e., student pilots would not be allowed to operate at certain primary airports and would be required to obtain specific training and an instructor's endorsement of a student's logbook for all other TCA operations); (2) a Mode C transponder would be required in all airspace from the surface to, and including, 12,500 feet mean sea level (MSL) within 30 miles of a TCA primary airport; and (3) helicopters would be required to operate under the same equipment requirements as other aircraft.

Recently enacted legislation, Public Laws 100-202 and 223, resulted in the FAA proposing to further expand the Mode C transponder requirement. Such expansion was proposed under Notice 88-2 and published on February 12, 1988. However, after reviewing the potential for public confusion that could result from FAA continuing to handle the Mode C transponder issues of Notices 87-7 and 88-2 separately, the FAA is considering deferring the Notice 87-7 Mode C transponder proposal until all comments on Notice 88-2 have been analyzed leading to a final decision. The remaining non-Mode C proposals of Notice 87-7 are still being considered and a final disposition on them should be published in the near future.

30. Earlier, the FAA had proposed expanding the size of the 23 existing Terminal Control Areas to a 30-mile radius. Now, with the Mode C rulemaking, that has been extended to 40 miles at approximately 250 airports. What is your basis for taking this action? Haven't you used a Mode C requirement to justify your expansion of the 23 TCA's?

Answer: As discussed earlier, the FAA has not issued any regulatory proposal to expand the size of any TCA to 30 miles. The FAA did propose, however, to establish a Mode C transponder requirement for all aircraft operating within 30 miles of a TCA primary airport. This proposal was published as Notice 87-7 on June 16, 1987, more than 6 months prior to the enactment of the two Mode C transponder statutes (Public Laws 100-202 and 223). Under Notice 87-7, TCA requirements would not apply to the airspace outside of the TCA; rather, an aircraft would only have to be equipped with and operate a Mode C transponder.

A review of the Mode C proposal in Notice 87-7 with the broad language of the recently enacted legislation dealing with Mode C transponder requirements led the FAA to believe that the 30-mile-radius Mode C transponder proposal probably would not meet the legislative intent. Thus, the 40-mile-radius Mode C transponder proposal was issued. We are currently reassessing the proposed 40-mile radius in light of comments received. We anticipate that there will be substantial changes to the proposed rule.

31. Given the statutory language in P.L. 100-202 and P.L. 100-223, how did the FAA conclude that Congress intended a lowering of controlled airspace to 1,200 feet above ground level (AGL)?

Answer: First and most important, a specific base altitude for controlled airspace was not proposed in Notice 88-2. In the preamble of the notice, the FAA discussed the benefits of adopting a base altitude of 1,200 feet AGL; however, the proposal recommended controlled airspace be established at or lower than the altitude adopted for the base altitude of the Mode C transponder requirement.

The FAA did not conclude that there was any Congressional direction regarding lowering controlled airspace. The FAA, however, did determine that such a proposal was necessarily germane to actions resulting from the Mode C mandates of Congress. To illustrate, the only consistent floor for controlled airspace over the United States presently exists at 14,500 feet MSL. This floor is not consistent with the base altitude for the current Mode C transponder requirement (12,500 feet MSL in controlled airspace). Under the statute, the FAA was mandated to require a Mode C transponder in all other controlled airspace at an altitude determined by the FAA. The FAA believed that it was not Congress' intent to retain 12,500 feet MSL as the base altitude for the Mode C requirement. It was also apparent to the FAA that whatever altitude was determined as the base altitude, such altitude should at least be within controlled airspace as required by the statute and specified as one consistent altitude throughout the United States. For some time now, controlled airspace has existed upward from 1,200 feet AGL in the United States east of the Mississippi River. By proposing a lowering of controlled airspace coincident with establishing a base altitude for the Mode C transponder requirement, a pilot would know exactly where a Mode C transponder would be required based on a simplified standard altitude applicable throughout the United States. Additionally, that pilot would not have to go through lengthy chart examinations to determine if the base altitude were in controlled or uncontrolled airspace but would know exactly where a Mode C transponder would be required.

A review of legislative history dealing with Mode C transponder requirements revealed discussions concerning 4,000 feet AGL as a recommended base altitude. The 6,000-foot AGL altitude was chosen to coincide with the planned en route radar coverage for the United States. With controlled airspace established at 1,200 feet AGL over the entire United States: the 6,000-foot AGL altitude would be contained within controlled airspace; controlled airspace over the western United States would be consistent with that over the eastern United States; and low-altitude area navigation flight conducted under instrument flight rules would be afforded the protection of flight within controlled airspace.

The FAA rationale for proposing to establish the Mode C requirement at 6,000 feet AGL also took into account the added safety benefits to TCAS-equipped aircraft from Mode C transponders in this airspace.

During its consideration of the comments received in response to Notice 88-2, the FAA will carefully evaluate the issue of what should be the base altitude for Mode C transponder carriage.

32. Mr. McArtor, as you know, the Massachusetts Port Authority has proposed a new cost allocation structure that is aimed at discouraging general aviation and small commuter flights from operating at Boston's Logan Airport. What is your view of that proposal? From where you sit, would this effectively result in a ban on general aviation flights at that airport?

Answer: While airport authorities have the right to recover their costs of operation through user charges, they also have an obligation to make their airport open and available for public use on fair and reasonable terms to all classes of users without unjust discrimination. The National Business Aircraft Association (NBAA), the Aircraft Owners and Pilots Association, and the Regional Airline Association (RAA) have filed formal complaints with the FAA regarding the Massport proposal. In accordance with Federal Aviation Regulations, Part 13, FAA has requested responses from Massport regarding these complaints.

Secretary Burnley has been apprised of these complaints. He and I believe that they raise important issues involving matters of national transportation policy, and that their resolution may affect the national air transportation system. The Secretary has decided to assume direct responsibility for the review of these complaints. Following initial review and analysis of the complaints and the Massport responses, a determination will be made as to whether and what further formal action is warranted. I will be working closely with Secretary Burnley on this issue.

It must be kept in mind that what is involved here is not a direct ban on any users of Boston-Logan Airport but a new cost allocation structure, the effect of which will be higher fees for general aviation and small commuter users of the airport. Those fees will undoubtedly discourage some general aviation use of the Logan Airport, and will likely impact some commuter service to communities in the New England area. Those issues, their scope and their effect, will be fully considered in our review and analysis of the Massport new fee structure.

33. Mr. McArtor, is this a matter that you believe should be reviewed and approved by the FAA?

Answer: I do not believe the FAA should take the position of having to approve cost allocation structures proposed by airport authorities. As I noted in answer to the question on my view of the Massachusetts Port Authority's new cost allocation proposal, airport authorities have the right to recover their costs of operation through user charges. The FAA should not intervene in cost allocation issues unless there is clear evidence that the costs are being allocated in a manner that unduly burdens interstate commerce or violates airport grant agreement assurances that airport facilities be available to users on fair and reasonable terms and without unjust discrimination. Otherwise, the FAA should leave the process of setting user fees to airport authorities and users of the facilities.

34. Mr. McArtor, late in 1987, you were quoted as being in favor of a national noise abatement policy. Could you please outline what you had in mind? What is the status of that proposal?

Answer: I have been very concerned about existing and potential restrictions on airport access caused by local airport noise rules that limit the type of equipment allowed to operate at some airports and constrain the numbers of flights and times of day that airplanes can operate. In November 1987, I received recommendations from the Working Group on Aircraft Noise/Airport Capacity, a subgroup of the Joint Industry Task Force on Airport Capacity. The working group is composed of airport proprietors and airlines. For the first time, these diverse interests agreed on a consensus approach to the problem and made specific recommendations for solutions.

While I was, and continue to be, optimistic that a national approach may be found to the noise/access problem, some recommendations of the working group may be inconsistent with the Administration's approach to federalism and/or are inappropriate at a time of budget deficits. The working group is continuing to pursue its efforts and is seeking solutions that are fully consistent with the policy goals of the Administration. I look forward to receiving new and/or revised recommendations late this year and believe they may move us closer to a national approach to reducing aircraft noise without limiting access.

35. Mr. McArtor, when dealing with today's critical airport capacity problems, and with the noise abatement demands of local communities surrounding airports, does the FAA find itself approving noise abatement flight procedures that require aircraft performance that is beyond that for which the aircraft is certified?

Answer: No. The FAA has never put environmental concerns before aviation safety and has no intention of doing so no matter how much community pressure is exerted. Noise abatement flight procedures are often recommended in connection with airport noise compatibility programs proposed for FAA approval under the procedure established in Part 150 of the Federal Aviation Regulations. The first matter to be examined when such procedures are proposed is whether the requested procedure is safe. If it is found unsafe, the proposal would be disapproved without hesitation.

36. The recent GAO report on commuter airports states that all airports with scheduled commercial operations need to meet minimum certification standards. When will the FAA begin to set standards for commuter airports?

Answer: We are in the process of finalizing our response to the GAO report. We will be pleased to provide the Committee with further information concerning this issue once our response to the GAO has been completed.

37. In conducting your year-long investigation into commuter airline safety, will the FAA consider the possibility of moving scheduled commuter airline operators from Part 135 into Part 121 operational requirements, thereby increasing the safety of the commuter passengers?

ANSWER: Yes. The FAA will consider the possibility of moving scheduled Part 135 air carriers into the operational requirements of Part 121 if it is determined that those requirements would be a key factor in enhancing safety. Other options could include promulgating regulations to rectify specific, identified shortcomings in commuter requirements rather than changing all requirements. We are committed to improvement in commuter safety and will consider all reasonable measures as part of our year-long investigation.

38. As you well know, commuter carriers are experiencing a high turnover rate of pilots. What plans do you have for increasing the experience levels of commercial airline pilots? Does the FAA plan, support, or encourage any programs which involve cockpit resource management in an effort to use the present experience of the pilots to increase the overall operational safety of a flight?

Answer: The FAA believes that the aeronautical experience requirements presently set forth in the Federal Aviation Regulations are adequate. Instead, the FAA is focusing on the quality of training and evaluations pilots receive prior to serving as crewmembers. Toward this goal, the FAA has ongoing programs, such as Impact '88, which identify and promote the use of advance technology and innovative training methods which increase and enhance the knowledge and skills of those pilots used in air carrier operations.

The FAA believes that cockpit resource management (CRM) training is rapidly becoming a necessary part of an effective air carrier training program.

The Joint Task Force on Flight Crew Performance has developed a draft Advisory Circular on how to conduct effective CRM training. The FAA will publish a finalized version of this Advisory Circular soon. In addition, a supplemental training package will be developed and provided to the industry which will include a CRM handbook, appropriate visual aids, and lesson plans for CRM training to assist the air carriers industry in developing CRM programs.

In addition, under Impact '88, the FAA is embarking upon a long-range human factors program. This program is based upon the integration of job task analysis with human factors program elements. This program will focus on the entering commuter airlines pilot and flight instructors. The goal will be to produce improved training standards in order to upgrade the knowledge, skills, and attitudes of these crewmembers.

39. When the revised flight time regulations were published in 1985, the FAA said it would reevaluate those rules in light of NASA scientific information on fatigue, when it became available. NASA has subsequently published a great deal of information about fatigue. Do you still plan to undertake this reevaluation? If so, when?

ANSWER: Although NASA has published some information on fatigue and its effects on flight crewmember performance, the final NASA report on fatigue factors during short-haul and long-haul flights has not been completed. Nevertheless, during this fiscal year, the FAA plans to undertake a rulemaking review and to update, as necessary, the flight time limitations and rest requirements applicable to certificate holders and flight crewmembers who conduct operations under the rules for domestic, flag, and supplemental operators.

40. With the recent levels of airline mergers and aircraft acquisitions, the number of various "non-standard" cockpit configurations among airline fleets could pose a problem. Are you aware of this problem, and what actions will you take to resolve this matter?

ANSWER: The FAA is well aware of the unique training requirements which occur after an air carrier merger takes place. During a post-merger review, the FAA may determine that pilots must undergo additional training prior to operating aircraft with "non-standard" cockpit configurations. In fact, the FAA has already issued an Air Carrier Operations Bulletin (November 6, 1987) in which Principal Operations Inspectors were directed to review their assigned air carriers in order to ensure adequate cockpit standardization and training.

41. The FAA recently issued a Bulletin (No. 8-88-1) on Flight Crewmember Experience and Scheduling. Among other things, it requests that the airlines develop policies and procedures to deal with scheduling low experience crewmembers. What has been the airlines response to this Bulletin?

ANSWER: In most respects, the air carriers have responded favorably to the FAA's guidance. Fifty-one of the 90 air carriers surveyed have already adopted policies/procedures concerning the pairing of crewmembers. Others are reviewing the issue to determine what, if any, revisions can or should be made to their programs.

42. Unexpected wind shear at low altitude has resulted in many accidents. Are FAA's Facilities and Equipment and R&D efforts providing adequate attention to the need for Airborne and Terminal Doppler systems?

Answer: Yes, the FAA's Facilities and Equipment and Research and Development Programs are providing adequate attention to the need for airborne and terminal Doppler systems. The Terminal Doppler Weather Radar Program is in the procurement stage with the delivery of systems beginning in 1991 and continuing into 1994. FAA and NASA are jointly funding the Airborne Wind Shear Detection and Avoidance Program. This is in the second year of a 5-year program designed to establish system requirements for forward-looking wind shear detection devices using lasers, radar, and infrared techniques. Both of these programs are periodically reviewed by Government/industry review groups to ensure their continued relevance.

43. Numerous improvements have been developed for Low Level Windshear Alert Systems by the National Center for Atmospheric Research. These improvements, which were demonstrated in Denver last summer, have been endorsed by both commercial pilots and air traffic controllers. What steps has the FAA taken to incorporate the demonstrated improvements into the 110 existing Low Level Windshear Alert Systems?

Answer: At the present time, 101 airports have the Low Level Wind Shear Alert System (LLWAS). The system will be installed at the remaining nine airports within the next year. The FAA is moving rapidly to provide to all equipped airports many of the improvements tested at Denver last summer. The most important improvement is the substantially increased capability to detect microbursts based on an algorithm developed by the National Center for Atmospheric Research.

To extend this upgrade to the remaining airports, we will modify our existing 6-sensor networks, adding between 2 and 12 sensor sites where required. We will use tall masts, if necessary, to mitigate the effects of nearby obstructions to the wind. Microburst detection capability will be provided with these new networks, as well as an improved display in the tower cab, recording capability, runway-oriented winds, improved maintenance diagnostics, and full logistical support. This work is being done in two phases. The first phase will provide improved microburst detection capability, recording capability, and improved maintenance diagnostics. This phase was started last August and will be completed this year. The second phase started in March 1988 and will continue until August 1992. This phase includes expanding the network, providing new tower cab displays and runway-oriented winds. This work takes longer to implement because in expanding the networks property must be acquired, roads built, power runs installed, and very tall masts procured and installed.

44. The FAA-sponsored completed development of a Pilot Wind Shear Training Program in February 1987, which has received excellent reviews from the airlines and their pilots. To your knowledge, how many airlines have incorporated the training program into their training? What steps is the FAA taking to ensure that this program will be in widespread use by the end of 1988?

Answer: Our survey is not yet complete but we have determined that 79 air carriers have adopted the FAA-sponsored Pilot Wind Shear Training Program. Nine air carriers have not. The FAA is in the final stages of rulemaking on a proposal to require wind shear ground and flight training for most of the carriers operating under Part 121 of the Federal Aviation Regulations.

45. During the past winter season, there have been numerous weather-related accidents. What programs are being sponsored by the FAA to improve aircraft icing forecasts, warnings, and detection?

Answer: The FAA is working with the Federal Coordinator for Meteorological Services and Supporting Research to establish a multi-agency program to pursue the program laid out in the National Plan to Improve Icing Forecasts. The National Center for Atmospheric Research has agreed to provide program leadership through its Research Applications Program (Dr. John McCarthy). Work is already underway at NOAA's Environmental Research Laboratories where an icing forecast work station is being developed. Additional work is ongoing to establish funding responsibilities and refine projects for this 6-year effort. The FAA is planning to begin its funding in FY 1990. There is general agreement that there cannot be substantive improvements in icing forecasts and warnings until NEXRAD's are in operation. The 6-year program will be using prototypes of these systems to develop and refine forecasting techniques.

Icing detection work is being carried out by the FAA Technical Center. A joint program with MIT has resulted in the development of an ultrasonic aircraft icing detector. The detector development program will be completed this year. Follow-on work using the detector will address ice adhesion properties and predictor development to aid in de-icing.

46. It was recently reported that, at the direction of Secretary Burnley, the FAA will now fine airlines for every failure to detect imitation weapons at airport security screening points, rather than allowing two warnings before taking such action. If this is true, why was the FAA willing to let the first two failures go by without sanction?

Answer: Although regulatory authority existed to permit the FAA to take enforcement action for an air carrier's failure to detect actual weapons at screening checkpoints, prior to October 1, 1987, no such authority existed with regard to detection of test objects. Effective that date, air carriers' approved security programs were amended to require 100 percent detection of test objects.

In conjunction with that amendment, the FAA developed an enforcement policy which required that enforcement action be taken against the responsible air carrier each time there was a failure to detect a test object. Enforcement action includes both administrative action and legal action (civil penalty).

Administrative enforcement action was permitted for the first two failures in any group of five tests. The enforcement policy has now been modified so that legal rather than administrative enforcement action is taken for any failure of the screeners to detect FAA test objects.

The former enforcement policy was designed to encourage air carriers to improve their performance by rewarding operational efficiency with suspension of civil penalty action. However, testing under this policy did not show a marked improvement.

47. It has also been reported that Secretary Burnley has proposed requiring computer-controlled identity card systems on doors and gates leading to secure areas at 269 airports. When would this type of system be put in place? Will this supplement the current requirement of screening flight crews?

ANSWER: A notice of proposed rulemaking entitled "Access to Secured Areas of Airports" was published on March 18 in the Federal Register. Comments are to be received on or before May 2. The FAA is hopeful that a final action on this proposal will be published in the Federal Register within 90 days after the comment period for that notice has closed. Airports would be required to submit proposed amendments to their approved security programs concerning access control systems to the FAA according to a schedule based on the number of persons screened at the airport each year. The proposed schedule allows 30 to 270 days for submission of amendments depending on screening figures. The FAA then expects that airport operators would implement their systems within 6 months after the airport operators' amendments have been approved.

This action is designed to raise the overall level of airport security by complementing the 100 percent screening procedures, which were instituted in December 1987 and which include the screening of flightcrews.

48. Recently, the FAA's Office of Civil Aviation Security issued an administrative directive requiring airports to ensure that only one vehicle at a time is allowed to enter through automatic perimeter security gates. The Committee is concerned that the alternatives for corrective action offered to airports could place an unfair burden on small facilities where the threat is limited. Can you please explain the rationale behind this security requirement?

Answer: An effective perimeter barrier is one of the most crucial elements of a security plan designed to preclude unauthorized persons from accessing restricted areas. Automatic vehicle gates can contribute to the effectiveness of a perimeter barrier if properly utilized. However, several airports had installed automatic gates which took in excess of 40 seconds to close after a vehicle has passed through--nearly four times as long as needed for a standard vehicle. Such gates were glaring weak spots in perimeter security and could afford easy access to airport restricted areas.

The FAA's Office of Civil Aviation Security (ACS) issued guidance which stated that automatic vehicle gate closure times must be reduced sufficiently to admit only one vehicle at a time, or a person must be assigned to monitor the gate, or a double trap gate must be installed where gate users would enter one gate, wait for that gate to close, and then proceed through the security gate which opens only after the first had closed.

In recognition of varying airport activity and threat levels, ACS issued additional guidance which allowed other alternatives to be considered. For example, at low-activity airports, an acceptable alternative would be an expansion of procedures where gate users must stop and wait for the gate to close behind them before leaving the area. Language would be placed in the airport security program which would enable an airport operator to ticket or suspend driving privileges of gate users who failed to stop and wait. The airport security program would also contain procedures for airport operators periodically to monitor compliance with gate use provisions.

Such alternative procedures may be designed by airport operators and submitted to the FAA in their security programs for approval. The procedures would then be evaluated to ensure that they provide a level of security comparable to one of the previously described options.

49. As a part of your Impact 88 initiative, you wanted the FAA to develop a more meaningful set of indices that would measure the margin of safety. What is the status of that effort?

Answer: The FAA plans to implement a computerized safety measurement methodology, developed in two phases, which will permit us to monitor the condition of the National Airspace System continually and to focus resources more efficiently. The two-phased system, which will consist of air traffic system safety indicators and flight operations safety indicators, will be accomplished under contract to an independent firm. We expect the contract to be awarded by June 1, 1988. The implementation plan for the phase I air traffic system indicator prototype is scheduled to be completed by the end of the year, with an operational prototype by June 1989. The flight operations prototype is scheduled to be in place by February 1990.

50. How do you currently share the detailed information the FAA collects on near midair collisions, operational errors, pilot deviations, and runway incursions with the aviation community so that they can take an active part in an awareness and education program designed to reduce the growing number of these events?

Answer: The FAA publishes annual statistical reports which contain detailed information on near midair collisions, operational errors, and pilot deviations. The reports provide comprehensive information on the nature and characteristics of these events. The reports are made available to the aviation community and the public. In addition, the FAA uses various forums such as "Back-to-Basics" seminars, accident prevention seminars, and joint FAA/industry meetings to share information regarding these and other safety issues.

51. In spite of airport operator and pilot concerns, Boeing is currently developing an even larger 500 version of its 747 aircraft. The aircraft's wingspan, other dimensions, and maximum gross takeoff weight make it incompatible with all but a handful of U.S. certificated airports. What action is FAA taking to ensure that this aircraft is not developed and sold prior to such time when its compatibility with airports can be assured?

ANSWER: The FAA shares the concern of airport owners and others with regard to the potential implications which would accompany the introduction of even larger and heavier aircraft. In order to ensure that our airport design standards, as well as our abilities to evaluate aircraft/airport compatibility are adequate to meet the safety and efficiency needs of the system, we are meeting regularly with Boeing and other manufacturers, through industry working groups, to monitor developments which could adversely affect our airport system. We are also represented in a special study group under the auspices of the International Civil Aviation Organization, which has also focused on this same matter.

52. Despite repeated industry requests and support from the NTSB, the FAA/NASA runway friction measuring device correlation program has yet to fulfill its objectives, namely correlating ground vehicle runway friction readings with aircraft braking characteristics. What is the FAA doing to expedite the completion of this program--which began in mid-1983?

Answer: The FAA/NASA friction correlation tests at NAS Brunswick, Maine, were completed in March 1986. Thus far, only NASA Technical Memorandum 100506, "Summary Report on Aircraft and Ground Vehicle Friction Correlation Test Results Obtained Under Winter Runway Conditions During Joint FAA/NASA Runway Friction Program," was completed. The results showed that good correlations exist between the ground friction devices tested on snow- and ice-covered surfaces. Also, ground vehicle friction measurements relate to aircraft effective braking friction coefficient values. The FAA is pressuring NASA to complete the final report on these tests, and NASA has promised the final report by May 1988. Two additional draft reports are scheduled for submission to FAA for review; these reports deal with test results on wet and dry runway surfaces. Preliminary results indicate that the aircraft-ground friction device correlation varies with the amount of water on the runway.

53. The FAA's contract tower program continues to provide significant safety and economic benefits to smaller communities and air travelers. The Committee would like to know your plans to expand this private sector program to other qualified communities, as requested by Congress in P.L. 100-223.

Answer: The indepth review of low activity control towers, particularly those that do not meet criteria for continued FAA operation and those identified as potential contract tower candidates, is in progress. Each case-by-case review includes a traffic activity analysis (historic, present, and forecasted), a site-specific benefit/cost analysis, and a detailed review/analysis of any special operational factors unique to the airport or area. These reviews are necessary to ensure that an appropriate course of action is initiated. An appropriate action could include a recommendation to retain a tower as an FAA facility, to contract out the operation or to decommission the control tower. This will be an ongoing effort, and reviews of existing and candidate sites will be done annually to assure that funding of a tower operation continues to be commensurate with the benefits realized from the services provided.

54. Mr. McArtor, P.L. 100-223 requires FAA to promulgate regulations establishing criteria for the installation of control towers and navigation aids by the end of the year. It is our intent that the FAA eliminate any unfair discrimination against passengers flying on smaller regularly scheduled airlines in this criteria. Can you please inform the Committee of your plans to comply with this provision?

Answer: Two criteria--airport traffic control towers, and Loran-C--are currently under development or revision. Rulemaking will be initiated pending completion of the required benefit-cost analysis. All criteria will treat all system users in a fair and equitable manner. At a minimum, the following factors will be considered: the number of aircraft operations without regard to aircraft size, terrain, and other obstacles to navigation, weather characteristics, passengers served, and potential aircraft operating efficiencies. Unlike previous establishment criteria which differentiated between the numbers of air carrier and air commuter operations, the new criteria will not make this distinction. Criteria for other systems will be developed or revised upon completion of those currently in progress.

55. Legislation has been introduced in both the House and Senate which would impose Federal standards on airport fees charged to off-airport companies, such as rental car firms. Has the FAA taken a position on this legislation?

Answer: The Department of Transportation is currently formulating a departmental position on these pending bills. The DOT General Counsel will transmit the Department's views directly to the Committee when they are finalized.

STATEMENT OF FRANK JENSEN, JR., PRESIDENT, HELICOPTER ASSOCIATION INTERNATIONAL

ENFORCEMENT

While it has become commonplace for the FAA to emphasize deterrence over compliance in its enforcement policy, the Helicopter Association International (HAI) would recommend redirection toward compliance over deterrence. The FAA's emphasis on deterrence, compounded by inconsistent interpretation of the regulations by the FAA headquarters, has not only proven inadequate but also counter-productive to the goal of safety.

We have conclusively observed from the experiences of our members and other operators that the emphasis on deterrence actually produces unsafe conditions. When problems arise, operators often will not approach the FAA for advice on safety or interpretation of regulations because of the FAA's proclivity to take enforcement actions and compound the situation. When operators are faced with such conditions the option to overlook a required procedure often becomes the course of action though through no fault of the operator.

In one classic example of regulatory heavy handedness, a large operator with a good record lost his PART 135 Certificate. The economic penalty was so severe that others in the industry took immediate action, not to enhance safety but to prevent the FAA from gaining any information which may lead to enforcement actions.

The operators have been driven into recording as little information as possible or nothing at all in their official books to avoid being charged with some offense. One does not need aviation sophistication to see the dangers and risks faced by operators in trying to evade the FAA's conflicting policies.

INCONSISTENCIES

Inconsistent information and enforcement of regulations exist at various levels in the FAA particularly among the regional, local and national inspectors. Presently the operators are on notice to disregard advice from the local and regional inspectors if it is contrary to the "proper" interpretation of the regulation. If one interpretation is condoned by a local inspector and the regional inspector takes a different interpretation then the operator is in jeopardy for taking the local inspector's interpretation.

Similarly, when the national inspection team inspects an operator, their findings are given precedence and the operator is violated for conforming to the approvals of the local or regional inspectors.

Operators allegedly ship equipment to a particular FAA region because approval can be obtained with relative ease in that region when similar approval is difficult or impossible to obtain in another region of the country.

UNREASONABLENESS

Safety is risked when regulations are interpreted differently and technically rather than logically and reasonably. For instance, regulations have been interpreted declaring any single-engine aircraft unairworthy if any component or installed equipment whatsoever is inoperable. If a cigarette lighter is inoperative, the aircraft is technically not airworthy. Anyone reasonable and logical would not ground an aircraft on the basis of the failure of that component.

APPROVAL EFFORTS

Operators complain that documents submitted to the FAA for approval may be delayed for 6 months, 1 year, 18 months, or even 2 years. Part of this delay is probably the lack of FAA manpower. However, much of the delay is the result of inconsistent interpretation of regulations which slows down the entire process. The bottom line is often shear economic impact on operators, who have no recourse and no means of speeding up the process.

RECOMMENDATIONS

(I) The administrator should issue an enforcement policy stressing compliance rather than deterrence.

(II) A policy statement should be affirmed to explain that the FAA legal office is a consulting body and not a policy maker.

(III) Implementation of a methodology whereby the operator emphasizes safety, and when the operator or the FAA discover potential violations, the FAA and the operator cooperate to bring the violation into compliance. (IV) Strong efforts to punish should be reserved for multiple offenders or those who fail to cooperate to bring violation into compliance.

(V) Some form of appeal board, possibly to include aviation industry members, should be created to provide consistent interpretations. If the FAA legal office is advisory to this board, the tendency to be technical rather than reasonable is mitigated. At the same time the board would have knowledge of the technical legal risks.

(VI) The interpretation of the board should be sufficient authority to void a legal appeal unless the board abuses its authority.

Subsequent to drafting the above testimony I met with the FAA, and am encouraged that the industry and the FAA may be able to work out some of these problems.

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